Pakistan Archaeology

Number 8—1972

THE DEPARTMENT OF ARCHAEOLOGY
PAKISTAN

Pakistan Archaeology

Number 8—1972

—M. Ishtiaque Khan
Pak Archaeology
No 8 - 1972

Pakistan Archaeology

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Edited by

Muhammad Ishtiaq Khan

THE DEPARTMENT OF ARCHAEOLOGY
MINISTRY OF EDUCATION, GOVERNMENT OF PAKISTAN
KARACHI

1972

Produced and Published by the
Department of Archaeology & Museums
Government of Pakistan, Karachi

Price in Pakistan: Rs. 50.00
Foreign Price : $ 6.00

Printed by Standard Printers, Karachi

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EDITORIAL

The present issue covers the research activities of the Department of Archaeology, particularly in the field of excavations and explorations, during the year 1972. The first part of the report on excavations at Sarai Khola, dealing with the structural remains, stratigraphy etc., was published in the previous issue (No. 7) of this Journal. The second part of the report dealing with the minor antiquities and pottery appears in the present volume. The chapter on antiquities and the conclusions of the report have been contributed by Mr. M.A. Halim, the author of the first part. The chapter on pottery is a product of the joint effort by Dr. M. Rafique Mughal and Mr. M.A. Halim. Dr. Mughal has not only presented an analysis of the pottery of Sarai Khola recovered from early Periods (I and II) but has also added an introduction to it.

A systematic survey of the archaeological potential in a country is a necessary pre-requisite of planned excavations. This aspect unfortunately did not receive its due attention in the past. In view of the situation the Department during this period, planned systematic archaeological surveys in various parts of the country. The northern regions of Baluchistan, south-esatern parts of Sind and central Punjab were thus thoroughly explored. A summary of these explorations appears in the present issue. In the summary, Dr. Mughal has also given a brief account of the excavations at the sites of Jalilpur, Zarif Karuna and Satghara. The detailed reports on these excavations will be published in the subsequent issues of this Journal.

A scientific and technical article on the earliest distillation units of pottery in Indo-Pakistan by Dr. S. Mahdihassan also appears in the present volume. The author has traced, with the help of the archaeological finds, the primitive system of distillation prevalent in the country since 3rd century B.C. Two other articles by Prof. Muhammad Baqir and Mr. F.S. Aijazuddin provide useful information on a

rare Mughal manuscript—Akbar's copy of Faizi's Nal-wa-Daman—and on the Razmnama of 1616 A.D. respectively.

The printing of this issue has been delayed considerably for reasons beyond our control. Mr. S.A. Naqvi, Director of Archaeology under whose personal spirited guidance and energetic supervision most of the work reported in the present issue were executed, joined UNESCO on deputation. The post of the Superintendent of Publications also remained vacant. In his absence Sh. Khurshid Hasan, Deputy Director (Admn.) and Mr. Niaz Rasool, Assistant Superintendent of Archaeology, in spite of their multifarious engagements, supervised its printing. Dr. M. Rafique Mughal, Supdt. of Explorations and Excavations, joined hands with them and saw the first two articles through the press.

Muhammad Ishtiaq Khan
Director of Archaeology & Museums

EXCAVATIONS AT SARAI KHOLA—PART II*

by

MUHAMMAD ABDUL HALIM

(Plates : I—XXIII)
(Figures : 1—33)

CHAPTER I THE ANTIQUITIES

—by Muhammad Abdul Halim

CHAPTER II THE POTTERY

—by Dr. Mohammad Rafique Mughal and Muhammad Abdul Halim

CHAPTER III CONCLUSIONS

—by Muhammad Abdul Halim

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*The Part-I of this report has already appeared in the last issue of *Pakistan Archaeology*, No. 7, 1970-71, pp. 23-89. During the preparation of Part-II ,I have received help, encouragement and advice from Mr. S.A. Naqvi, Mr. Muhammad Ishtiaq Khan and Mr. Ahmad Nabi Khan. I am greatly indebted to all of them and record that without their personal help, the present work could not have been completed and presented in its present shape. Dr. M. Rafique Mughal has greatly helped with his experience and technical knowledge in the classification and analysis of the material, specially the pottery, and has contributed a lengthy introduction to the pottery of the prehistoric Periods I & II at Sarai Khola.

Grateful thanks are also due to my colleagues in the Explorations and Exeavations Branch for their professional help. M/s. Hasinuddin Qureshi and Manzoor Ahmed Siddiqui prepared the drawings of the antiquities and the pottery, while S.M. Ilayas prepared the photographs. My thanks are also due to M/s. Tariq Masud and Mohd. Hussain for their help I received at several occasion in the prearation of Tables of antiquities etc; to Mr. Mirza Mahmud Baig, Librarian, Central Archaeological Library for his personal and professional help.

CHAPTER I

THE ANTIQUITIES

by

Muhammad Abdul Halim

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The excavations at Sarai Khola in different trenches yielded a total number of 676 antiquities belonging to Period I, IA (Transitional), II, III and IV. Two hundred and ten objects belonging almost to all the cultural periods were collected from the surface of both the high mound 'A' and low mound 'B'. Unlike pottery described in Chapter II, the antiquities including implements and minor objects have been classified by grouping them in their startigraphic sequence and material. In Period I only implements of stone and bone representing microliths, stone celts, stone chisels and bone points were found while in Period IA, representing transitional phase, blending of Period I and II was witnessed. In Period IA the personal and cult objects like stone beads, terracotta bangles and terracotta female figurines were added to the implements of Period I. In Period II including the implements of Period I a variety of minor objects in good frequency were produced from stones, copper, bone, shell, steatite, faience and terracotta.

Period III, representing the cemeteries of early and late periods, yielded a few minor objects. But the hall-mark of this period is the introduction of Iron. The minor objects of Period III include two iron rings (Pl. VB, No. 1 and 3), a rod?, two iron beads or fasteners (Pl. VB, No. 4 and 5), a carnelian ring stone (Pl. VB, No. 2), and a bracelet of tiny paste beads (Pl. VB, No. 6-53).

The Period IV, representing a late cultural occupation at Sarai Khola, yielded a number of minor objects which include semi-precious stone, paste and shell beads, terracotta bangles and figurines, and objects of play. Besides these minor but typically cultural objects, some items of earlier levels of Sarai Khola I and II are also present in the antiquities of Period IV. How they came to be present in such a late level can only be surmised and is any body's guess.

The antiquities are classified here in the following pages according to their material and categories. They are of stone, metal, bone, shell, steatite, faience and terracotta.

I. STONE OBJECTS

The stone objects recovered at Sarai Khola include (a) microliths, (b) celts, (c) chisels, (d) mace-heads, (e) house-hold objects and (f) Beads. For the distribution of stone objects according to periods at Sarai Khola see below (Table 1):

Periods	*Microliths*	*Celts*	*Chisels*	*Maceheads*	*Grinding Slabs*	*Grinders & Pounders*	*Beads*	*Total*
Surface ..	50	29	8	2	1	3	20	113
IV ..	7	2	2	—	2	7	5	25
III	—	—	—	—	—	—	1	1
II ..	32	11	16	5	9	32	10	115
IA ..	4	—	—	—	—	—	1	5
..	1	1	1	—	—	—	—	3
Total:	94	43	27	7	12	42	37	262

Table. I. Showing stratigraphic distribution of stone objects.

(a) Microliths

A total numbei of 94 microliths were found at Sarai Khola: 38 came from the stratified layers of Period I, IA (Transitional) and II. The rest came from Period IV ? and surface (Table 2). It is strange that Period I yielded only two examples, whereas the succeeding periods IA and II yielded an ever increasing number while the greatest number was unstratified. The presence of microliths in the levels of Period IV can only be surmised. The microlithic industry of Sarai Khola I and II was an evolved and developed industry using 'crested-ridge guiding' technique for manufacturing implements. Examples of retouched or notched implements also occur. Usually fine grained chert or flint and occasionally varigated chert and jasper were used as material for the Sarai Khola microliths. The presence of nodules (Pl. IB, No. 13), flakes and cores suggests that the material was brought in from elsewhere and the implements were produced locally at the site. The assemblage includes long or short parallel-sided blades, side or end scrapers, asymmetrical flakes and arrow-heads. Perhaps the blades were used by inserting them in the bone handles (Pl. VIIA, No. 6). For the distribution of microliths, cores and flakes see

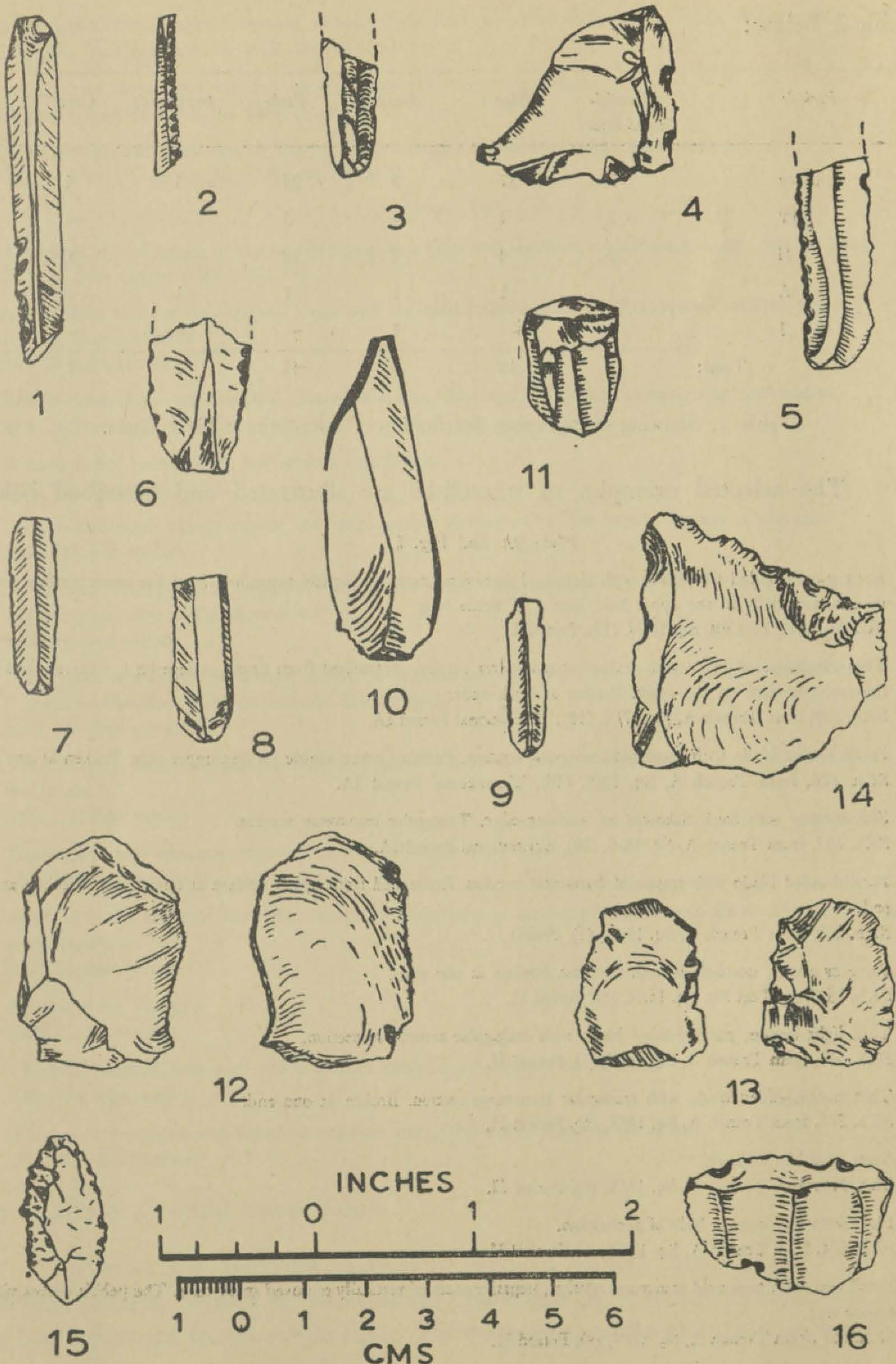


Figure 1. Microliths.

Table 2 below:

Periods	*Parallel-sided blades*	*Blades*	*Scrapers*	*Flakes*	*Arrowheads*	*Cores*	*Total*
Surface	2	12	5	25	1	4	49
IV	2	2	—	3	—	—	7
II	5	4	2	18	—	3	32
IA	1	1	1	1	1	—	5
I	1	—	1	—	—	—	2
Total:	11	19	9	47	2	7	95

Table 2. Showing stratigraphic distribution of microliths at Sarai Khola.

The selected examples of microliths are illustrated and described below.

Plate IA and Fig. I

1. Long parallel-sided thin blade with trapezoid transverse section. Slightly retouched from the upper surface on one margin, especially in the upper half. Size 2.2 inches long.
   Skh. 61, from Test Pit, Sq. 16/N, (14), Period I.
2. Thin parallel-sided blade with traingular transverse section. Retouched from upper surface on one margin and from the under surface on the other. Broken at both ends.
   SKh. 589, from Trench A, Sq. 17/X, (10), Transitional Period IA.
3. Parallel-sided blade with trapezoid transverse section. Pebble Cortex visible on one upper side. Broken at one end.
   SKh. 626, from Trench A, Sq. 18/S, (10), Transitional Period IA.
4. Side-scraper with fresh flake-cut on working-edge. Triangular transverse section.
   SKh. 627, from Trench A, Sq. 18/S, (10), Transitional Period IA.
5. Parallel-sided blade with trapezoid transverse section. Retouched from upper surface at one margin. Broken at one end.
   SKh. 330, from Trench A, Sq. 18/Q,(5), Period II.
6. Same as above, notched at both margins. Broken at one end.
   SKh. 15, from Test Pit, Sq. 16/N, (5), Period II.
7. Thin light brown, parallel-sided blade with traingular transverse section.
   SKh. 514, from Trench A, Sq. 18/X, (7), Period II.
8. Thin parallel-sided blade with traingular transverse section. Broken at one end.
   SKh. 325, from Trench A, Sq. 18/X, (6), Period II.
9. Same as at No. 8 above.
   SKh. 522, from Trench A, Sq. 18/X, (6), Period II.
10. Flake with a prominent bulb of percussion.
    SKh. 504, from Trench A, Sq. 18/W, (7), Period II.
11. Small core with trapezoid transverse section, negative scars of vertically removed small flake. The pebble cortex visible on one side.
    SKh. 563 ,from Trench A, Sq. 17/V, (9), Period II.

12. Asymmetrical flake, slightly retouched on one margin from the under surface to produce a side-scraper.
SKh. 574, from Trench A, Sq. 17/T, (9), Period II.

13. Asymmetrical side-scraper retouched on one margin from the upper surface.
SKh. 417, from Trench A, Sq. 18/T, (5), Period II.

14. Asymmetrical flake, retouched on one margin from upper surface to produce a side-scraper.
SKh. 569, from Trench A, Sq. 17/W, (9), Period II.

Plate IB

1. Arrowhead of pink jasper, bi-marginally worked to a point and also have a rudimentary-tang. Size 1.05 inch long.
SKh. 37, from surface (Fig. 1, No. 15).

2. Parallel-sided blade of tan varigated chert with trapezoid transverse section. Retouched from both surfaces on the margins. One end broken.
SKh. 208, from surface.

3. Parallel-sided blade with trapezoid transverse section. Both margins slightly serrated. One end broken.
SKh. 26, from surface.

4. Same as at No. 3 above. Both ends broken, light brown.
SKh. 159, from surface.

5. Parallel-sided blade with triangular transverse section. Retouched on one margin. Broken at one end.
SKh. 209, from surface.

6 Side-scraper of thick flake of traingular transverse section. Retouched from the upper surface on one margin. Original pebble cortex visible on the upper side.
SKh. 41, from surface.

7. Thick flake of trapezoid transverse section with prominent working platform. One margin serrated due to use. Original pebble cortex visible on one side. Side-scraper.
SKh. 190, from surface.

8. Thick flake of triangular transverse section. Retouched from the under surface on one margin and other is serratd due to use.
SKh. 210, from surface.

9. Flake of triangular transverse section from a core. Used as side-scraper.
SKh. 198, from surface (Fig. 1, No. 16).

10. Small core with trapezoid transverse section. Negative scars of vertically removed small flakes. The platform almost at right angle.
SKh. 24, from surface.

11. Same as at No. 10 above.
SKh. 23, from surface.

12. Chert tan varigated, large core with flake-scars, platform and negative bulb visible.
SKh. 186, from surface.

13. A circular chert nodule with flake removed scars and pebble cortex. Platform not visible.
SKh. 157, from surface.

(b) Celts or Ground Stone Tools

An important collection of 49 stone celts or ground stone tools comes from different cultural periods at Sarai Khola. Nowhere in Pakistan, so many examples has been recovered from one site alone. The occurrence of the stone celts at Sarai Khola



Figure 2. Stone Celts.

is not an isolated phenomenon. Similar tools have been found in the region but never before in their true chronological sequence. Earlier, the tools have been found at Sirkap[1], Swat[2] and Balambat[3]. Sarai Khola ground stone tools are essentially of neolithic period and at Sarai Khola they make their first appearance in Period I where they are associated with microliths, bone points and red burnished pottery. Later on they were used and produced in the subsequent Periods IA and II. Few examples, obviously of earlier levels, occur in Period IV which can be best described as 'curious collections'. (Table 1).

The Sarai Khola stone celts are both long and short with pointed and wider butts. The flattish examples also occur. The Sarai Khola tools are mostly made of granite stone but other greenish or brownish varigated stones have also been used for producing smaller examples.

The Sarai Khola stone celts are mostly made of river-rolled, long, grainte pebbles. The desired shape was obtained by the technique of pecking and the cutting edge was obtained by grounding both the surfaces of the broarder side of tool in a fashion that the ground portion makes a rough ellipse on both the sides. Few examples of smaller but polished celts, also occur at Sarai Khola (Pl. III, No. 1,2 and 4 and Fig. 2 No. 1 and 2). The cross-section of Sarai Khola ground stone tools is essentially an oval. Out of the total number of 43 stone celts, one came from Period I, eleven from Period II, two from Period IV? and remaining 29 were collected from the surface (Table 1).

The selected examples are illustrated and described below.

Plate IIA and Fig. 2

1. Flattish, pointed-butt, completely polished stone axe. Size 3.0 inches long.
   SKh. 9, from surface.

2. Flattish, pointed-butt, completely polished stone axe. The unground portion is rough showing natural scars and roughness. Size 3.1 inches long.
   SKh. 167, from surface.

3. Similar as at No. 2 above but with broken butt. The working edge is smoothly polished on both sides.
   SKh. 463, from surface.

4. Slightly flattish, completely polished, rather asymmetrical stone axe with a wider butt end, size 3.2 inches long.
   SKh. 171, from surface.

5. Rather flattish, broken stone axe. The working edge is smoothly polished on both sides. The unground portion on one side shows natural roughness. There is a recent break at one side.
   SKh. 213, from Southern Trench, Sq. 17/Z, (12), Period I.

6. Pointed polished stone axe, broken in the middle. Flaking scars are not observed all over the surface, pecking marks are visible. The working edge is smoothly polished on both sides.
   SKh. 592, from Trench, A, Sq. 17/W, (9), Period II.

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1. The bibliographical references are at the end of this Chapter on page 32.

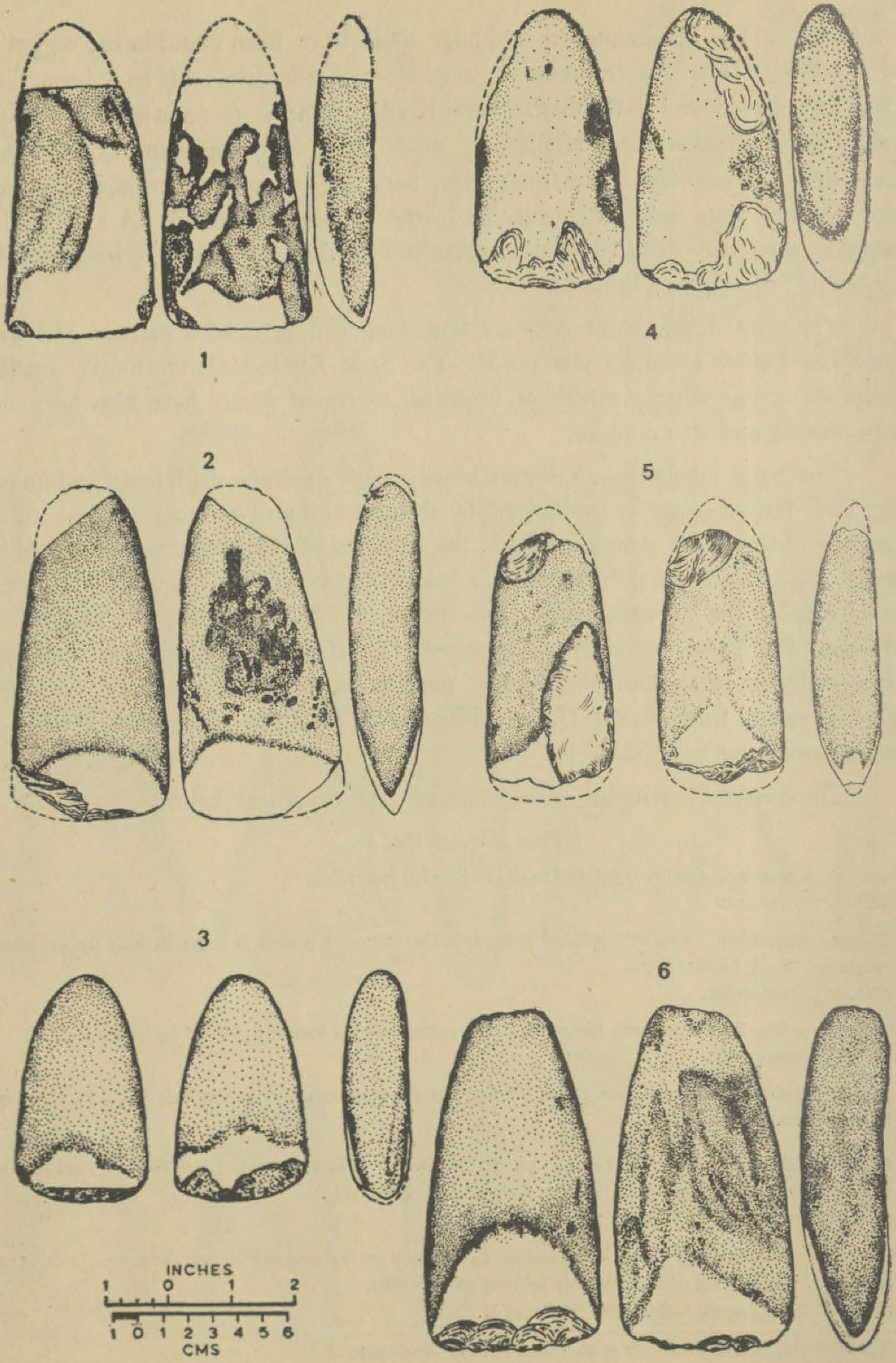


Figure 3. Stone Celts.

7. Pointed-butt, flattish, polished stone axe with oval section. There is a recent break at the butt. Size 3.4 inches long. SKh. 401, from Trench B, Sq. 16/M, (4), Period II.

8. Pointed-butt stone axe with oval section. The cutting edge is badly mutilated, perhaps it has been used as hammer. Size 3.2 inches long.
SKh. 618, from Tench A, Sq. 10/V, (9), Period II.

9. Rather flattish and has a wider butt end. The working edge is polished smoothly on both sides. At the tip, there is a slight break. Size 4 inches long.
SKh. 617, from Trench A, Sq. 17/T, (9), Period II.

10. Flattish and rather asymmetrical stone axe. Its butt is pointed. There are no scars of flaking. All over the unchiped portion, pecking marks are prominent. Butt and working edge has cracks, perhaps due to rough use. Size 5.4 inches long.
SKh. From surface.

11. Stone axe with heavy thick butt. There are two recent breaks, one at the tip and other at the butt.
SKh. 81, from Trench A, Sq. 17/Q,(4), Period II.

Plate IIB and Fig. 3

1. Pointed butt, polished stone axe with oval section. The working edge is smoothly polished on both sides. The unground portion is rough showing natural scars. Butt broken in recent times. Size 5.2 inches long. SKh. 7, from surface.

2. Pointed-butt, polished stone axe, rather flattish. The cutting edge is smoothly polished. There are two recent breaks, one at the tip and the other at the butt. Size 2.2 inches wide.
SKh. 3, from surface.

3. As above. The working edge is blunt due to excessive use as hammer. Size 3.9 inches long.
SKh. 172, from surface.

4. Pointed-butt, polished flattish stone axe. There are scars of break. One at the butt and side and other at the working edge. Size 4.5 inches long.
SKh. 164, from surface.

5. Pointed-butt, polished asymmetrical stone axe. Broken at both ends.
SKh. 170, from surface.

6. Pointed-butt, polished stone axe with oval section. The cutting edge is smoothly polished from both sides. The unground portion shows scars of natural roughness on one side. Size 5.2 inches long.
SKh. 162, from surface.

(c) Chisels

In all, twenty six chisels were found at Sarai Khola. Of which, one came from Period I, sixteen from Period II, one from Period IV and 8 were collected from the surface. (Table 1). These chisels are mostly made of lime and slate stone, abundantly available in the area. The stone of desired size and shape was selected among the river-rolled stones and tip of the chisel was bevelled to a sharp edge. In some cases, the desired shape was obtained by grounding the chisels on all sides. Usually the chisels made of slate stone are grounded. Perhaps at Sarai Khola, the chisels were used for making tools from bones or other materials.

The selected specimens are illustrated and described below.

Plate IIIA

1. Limestone, nearly parallel-sided chisel. Thin and convex in cross-section. The tip is bevelled to a sharp edge but in plan view it is convex ended, polished but roughly made. Length 4 inches, width 0.8 inches and thickness 0.4 inch.
   SKh. 632, from Trench A, Sq. 17/T, (11), Period I.
2. Completely polished limestone chisel, with sharply bevelled edge, nearly parallel-sided. Length 3.4 inches, width 0.9 inch, thickness 0.2 inch.
   SKh. 191, from Southern Trench Sq. 18/AA, (6), Period II.
3. Limestone chisel with bevelled sharp edge and three parallel horizontal grooves on the butt. Length 2.1 inches, width 0.7 inche, thickness 0.2 inch.
   SKh. 453, from Trench A, Sq. 18/T, (6), Period II.
4. Slate or limestone? nearly parallel-sided chisel. The tip is bevelled to a sharp edge. Length 3.1 inches, width 0.8 inch thickness 0.25 inch.
   SKh. 338, from Trench A, Sq. 18/Q,(5), Period II.
5. Nearly parallel-sided chisel. The tip is bevelled to sharp edge. Length 4.5 inches, width 0.7 inch, thickness 0.3 inch.
   SKh. 317, from Trench A, Sq. 18/Q. (4), Period II.
6. Limestone, nearly parallel-sided chisel. The tip is bevelled to a sharp edge. Length 4.7 inches, width 0.7 inch, thickness 0.3 inch.
   SKh. 327, from Trench A, Sq. 18/Q. (4), Period II.
7. Slate stone completely polished chisel with bevelled sharp edge and thick head. Length 3.8 inches, thickness0.3 inch, width 0.9 inch.
   SKh. 408, from Trench A, Sq. 17/R, (4), Period II.
8. Limestone nearly parallel-sided chisel. The tip is bevelled to a sharp edge. Length 4.1 inches, width 0.7 inch, thickness 0.25 inch.
   SKh. 78, from Trench A, Sq. 17/Q. (2) Period IV.
9. Slate stone, completely polished chisel with bevelled sharp edge and thick head. Length 4 inches, thickness 0.3 inch, width 0.9 inch.
   SKh. 185, from surface.

(d) Mace-heads

Seven mace-heads have been found at Sarai Khola. Five of which came from Period II and two from surface (Table 1). These are mostly made of granite and in one example, limestone has also been used (Pl. IIIB No. 3). A flat stone of desired diameter and thickness was selected perhaps from the river stones. The circular working edge was obtained by flaking all around the circumference on one surface (Pl. IIIB, No. 1). The perforation in the centre was made from both the sides resulting in a cup-shaped cavity at both the faces (Pl. IIIB, No. 2,3 and 5). After obtaining the central perforation pierced across, the mace-head was finally ground all round the circumference to obtain a circular and symmetrical smooth form (Pl. IIIB, No. 4). It will be interesting to note that except one (Pl. IIIB, No. 4), all mace-heads are

unfinished or the central perforation is not pierced across. The mace-heads found at Sarai Khola have close resemblance with those found at Balambat[4].

The selected specimens are illustrated and described as below.

Plate IIIB

1. Unfinished circular mace-head showing primary flaking all round the circumference on one surface. Both surfaces are smoothly grounded. Dia 4.6 inches and thickness 1.3 inch.
   SKh. 553, from Trench A, Sq. 18/U, (8), Period II.
2. Unfinished mace-head as at No. 1 above but with an addition of a small cup shaped cavity at both faces. Dia 6.8 inches and thickness 2 inches.
   SKh. 550, from Southern Trench, Sq. 18/Z, (7), Period II.
3. Similar as at No. 2 above but with working sides smoothly grounded. Dia. 3.1 inches and thickness 1.8 inch.
   SKh. 537, from Trench A, Sq. 18/W, (5), Period II.
4. Fragment of a perforated mace-head with final grounding of working edge.
   SKh. 13, from surface.
5. Fragment of mace-head with final grounding of the working edge. Cup shaped cavity at both faces.
   SKh. 644, from Trench A, Sq. 17/T, (6), Period II.

(e) Household Objects

At Sarai Khola, quite a good number of household objects of stone have been found in Period II and IV. They includes grinding slabs, and grinders and pounders (Table 1 and 3 also Pl. IVA and B).

Grinding Slabs

River boulders have been used for the grinding slabs. They are all of 'saddle' shape with upper surface presenting concave appearance. The river boulders were pitted usually on one side and the grinder was used all over the slab leaving unground ridges at both the ends of the long axis. Most probably these slabs were fixed in the floors to prevent their free movements. Two slabs have been found with under surface slightly pitted, perhaps this type was kept on the floor and due to flat under surface there was no movement of the slab while under use. Saddled slabs as found at Sarai Khola are widely distributed and are found at Mohenjodaro[5], Gumla[6], Quetta[7], and Mundigak[8].

The selected specimens from period II are illustrated and described below.

Plate IVA

1. Grinding slab of limestone boulder, upper surface presents concave appearance. Unground ridges at the both ends of the long axis. There are no unground ridges along the long axis as the grinding stone has been ground all over the slab. Under surface sightly pitted. Size 13½ inches long.
   SKh. 675, from Trench A, Sq. 17/T (8), Period II.

2. Grinding Slab of lime boulder as above but with unpitted under surface. Size. 14 inches long.
SKh. 676, from Trench A, Sq. 18/T, (8), Period II.

3. Grinding Slab of limestone boulder as No. 2 above. Size 15½ inches long.
SKh. 548, from Trench A, Sq. 18/R, (R), Period II.

4. Grinding Slab of boulder as No. 1 above. Size 16½ inches long.
SKh. 533, from Trench A, Sq. 18/U, (5), Period II.

Grinders and Pounders

A number of grinders and pounders have been found in Period II and IV (Table 1). Both the grinders and pounders have been grouped togather because in some cases grinders were used as pounders as well. The grinding stones were used in variety of fashions and their shape depends on their use.

(*a*) Circular grinders (Pl. IVB, No. 1, 2 and 4) are with two convex, truncated grounding sides. They were rubbed at one place in small circles.

(*b*) Rectangular grinders (Pl. IVB, No. 5) are used back and forth on the slab on one side without shifting the position of the grinders.

(*c*) Cylindrical grinders (Pl. IVB, No. 8 and 9) with rounded ends were rolled over the slab.

(*d*) Square sectioned grinders or pounders (Pl. IVB, No. 6) were used on all four sides when grinding, like our types (b) and (c) above and vertically on both sides when pounding something.

(*e*) River pebbles mostly ovate, plano-convex (Pl. IVB, No. 10 and 12) and of other different shapes (Pl. IVB, No. 3 and 7) were used as pounders or hammers.

For the distribution of abvoe types see below (Table 3).

			TYPES			
Periods	*A*	*B*	*C*	*D*	*E*	*Total*
IV ..	—	1	1	3	1	6
II ..	14	3	5	8	2	32
Total:	14	4	6	11	3	38

Table 3. Showing stratigraphic distribution of various types of grinders and pounders at Sarai Khola.

The selected specimens are illustrated and described below.

Plate IVB

1. Circular with two convex (truncated) grounding sides. Type (a).
SKh. 542, from Trench A, Sq. 17/R, (7), Period II.

2. Circular grinder used at points. Type (a).
SKh. 540, from Trench A, Sq. 17/U, (6), Period II.

3. Disc-shaped grinding stone. Also used as pounder. Type (e).
SKh. 653, from Trench A, Sq. 8/W, (10), Period IA (Transitional).

4. Similar as No. 2 above .Type (a).
SKh. 536, from Trench A, Sq. 18/W, (5), Period II.

5. Rectangular, roughly plano-convex hand stone, also used as pounder or hammer. Type (b).
SKh. 539, from Trench A, Sq. 17/V, (6), Period II.

6. Almost square sectioned pounder. Type (d).
SKh. 666, from Trench A, Sq. 18/T, (8), Period II.

7. River pebble used as hammer or pounder. Type (e).
SKh. 645, from Trench A, Sq. 17/W, (8), Period II.

8. Cylindrical in shape with rounded ends. It was used as rolling hand-stone and also a pounder. Type (c).
SKh. 671, from Trench A, Sq. 18/T, (8), Period II.

9. Similar in shape as No. 8 above. Type (c).
SKh. 552, from Southern Trench, Sq. 17/Z, (7), Period II.

10. Ovate plano-convex pounder. Type (e).
SKh. 672, from Trench A, Sq. 18/W, (8), Period II.

11. Similar as No. 3 above. Type (e).
SKh. 554, from Trench A, Sq. 18/U, (8), Period II.

12. Similar in shape as No. 10 above. Type (e).
SKh. 673, from Trench A, Sq. 18/W, Period II.

(f) Beads

Among the personal ornaments of Sarai Khola people, beads occupy second conspicuous place because of their great frequency. A total number of 244 beads have been found, of which 3 are of stone. Others are of terracotta, shell, faience and steatite or paste which have been dealt with separately.

In all, 37 beads including one ring stone (Pl. VB, No. 2) of semi-precious stones have been found at Sarai Khola. Typologically, lenticular, cylindrical and truncated bicone stone beads were popular in the early levels of Period II, whereas other types occurs at the mid-levels and onwards. Table 4 shows the distribution of stone beads according to material and periods.

Periods		*Carnelian*	*Agate*	*Lapis*	*Miscellaneous*	*Total*
Surface ..	..	2	2	11	5	20
IV ..	..	3	—	—	2	5
III	..	1	—	—	—	1
II ..	..	3	2	1	4	10
IA ..	..	—	—	—	1	1
Total:		9	4	12	12	37

Table 4. Stratigraphic distribution of stone beads according to material.

Due to the presence of unfinished beads (Pl. VA, No. 2, 11 and 12), it is likely that raw material was imported from elsewhere and beads were made locally at Sarai Khola.

The selected stone beads are illustrated and described blelow.

Plate VA and Fig. 4

1. Carnelian, standard lenticular.
   SKh. 614, from Trench A, Sq. 17/T, (9), Period II.
2. Carnelian, long cylindirical unfinished.
   SKh. 196, from South Trench, Sq. 16/Z, (9), Period II.
3. Carnelian, short truncated bicone, roughly circular.
   SKh. 149, from South Trench Sq. 17/Y, (4), Period II.
4. Carnelian, short spheroid circular.
   SKh. 70, from Trench A, Sq. 16/P (2), Period IV.
5. Banded agate, long truncated barrel, circular.
   SKh. 371, from Trench A, Sq. 16/Q. (4), Period II.
6. Varigated agate, long truncated bicone, circular. Broken.
   SKh. 63, from Sq. 14/T, (1), Period IV.
7. Lapis-lazuli, standard truncated barrel, circular.
   SKh. 210, from Southern Trench, Sq. 18/AA, (7), Period II.
8. Lapis-lazuli long cylindrical, circular.
   SKh. 57, from surface.
9. Lapis-lazuli, long truncated roughly barrel, circular.
   SKh. 62, from surface.
10. Varigated unidentified, long truncated bicone, circular.
    SKh. 612, from Trench A, Sq. 18/X, (8), Period II.
11. Unidentified, long truncated cylindrical, circular.
    SKh. 206, from Southern Trench, Sq. 17/Z, (7), Period II.

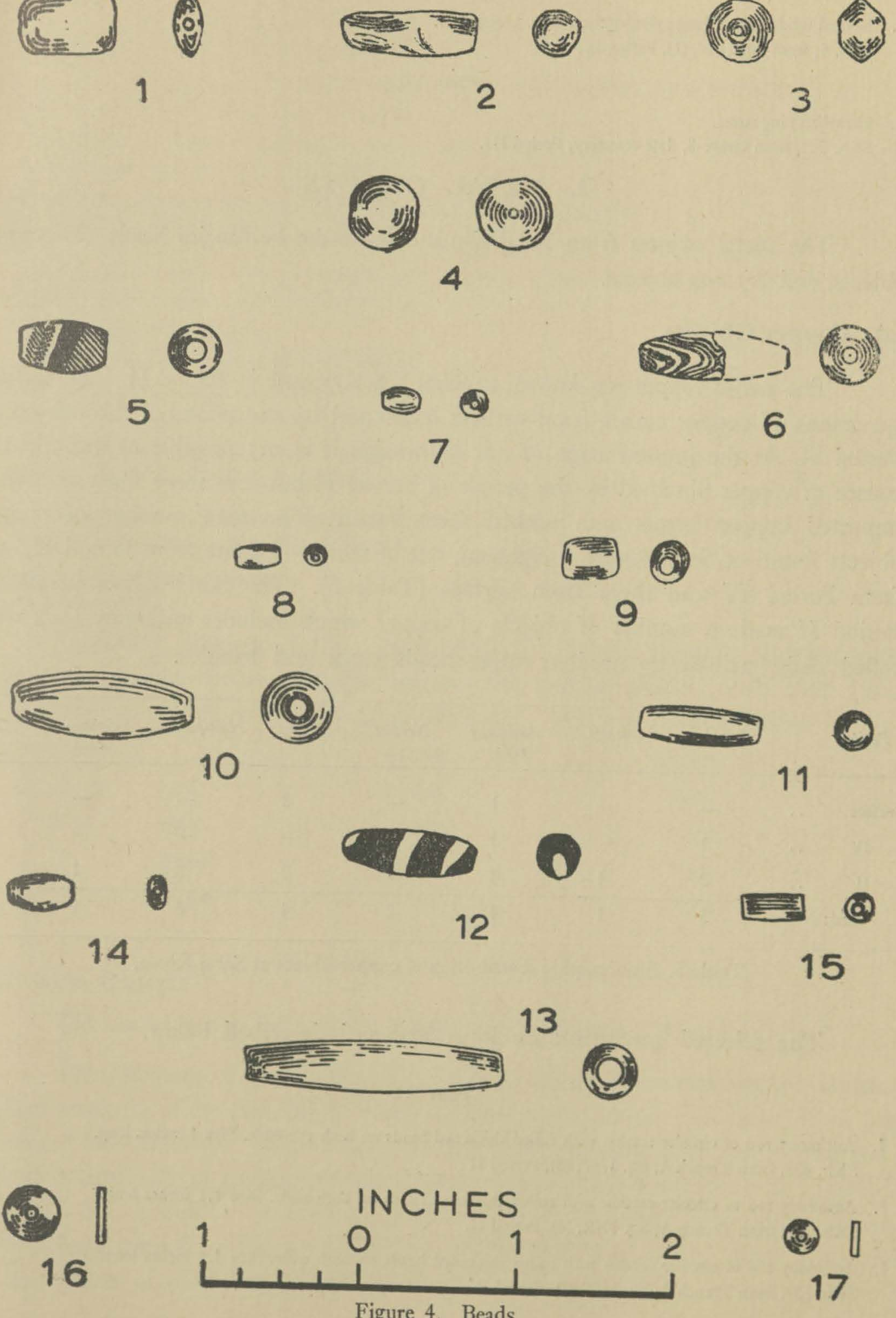


Figure 4. Beads

4. Nail-parer of circular section with flatened sharp working end and other rolled. Size 4.5 inches long.
SKh. 436, from Trench A, Sq. 18/T, (6), Period II.

5. Nail-parer of circular section with flattened sharp working end and other rolled. Size 4.4 inches long.
SKh. 429, from Trench A, Sq. 17/R, (5), Period II.

6. A square section instrument with both ends flattened. Size 5.3 inches long.
SKh. 615, from Trench A, Sq. 17/W, (9), Period II.

7. Needle of circular section with an eye in the flattened end. Size 4.5 inches long.
SKh. 471, from Trench A, Sq. 18/R, (6), Period II.

8. Needle of circular section with an eye in the flattened end. Size 5.2 inches long.
SKh. 594, from Trench A, Sq. 18/V, (9), Period II.

9. Spear head. Size 5.6 inches long.
SKh. 160, from Trench A, Sq. 17/W, (4), Period II.

10. A Ring of a thin wire. Inner dia. 0.7 inch.
SKh. 558, from Trench A, Sq. 18/Y, (8), Period II.

11. Bangle with circular section. Inner dia. 1.4 inch.
SKh. 507 from Trench A, Sq. 17/W, (7), Period II.

12. Wire bangle with circular section. Inner dia. 1.6 inch long.
SKh. 596, from Trench A, Sq. 18/W, (9), Period II.

13. Similar to No. 12 above but broken.
SKh. from surface.

Chaudhry Rehmat Ullah, Archaeological Chemist, Central Archaeological Laboratory, Lahore has very kindly analyised two copper objects, SKh. 596 (wire bangle, No. 12 above) and another piece SKh. 82. The results are as below:

	SKh. 82	*SKh.* 596
Lead	2.00%	Trace
Iron	0.20%	0.10%
Nickel	Trace	Trace
Copper	78.30%	99.10%
Zinc	Remainder	—

(b) Iron Objects

The use of iron at Sarai Khola was restricted to Period III and IV.

The discovery of iron in Period III greatly helped in determining the chronological sequence of the cemeteries. The iron objects of Period III came from the graves of late cemetery. They include two iron rings (Pl. VB, No. 1 and 3), one rod? found in Grave-26 in a very bad state of preservation and two iron beads or fastners? (Pl. VB, No. 4 and 5). It will be interesting to note that a very few number of iron objects have come from Period IV. They include one knife blade, three nails and other objects of which only fragments have been recovered.

Only the objects of Period III are illustrated and described below.

Plate VB

1. Finger ring, in a bad state of preservation. Missing portion could not be recovered. Perhaps the carnelian ring stone (Pl. VB, No. 2) was attached with it.
SKh. 303, from Gave-8, late Cemetry, Period III.

3. Complete finger ring.
SKh. 306, from Grave-22, late Cemetery, Period III.

4&5. Two iron beads or fastners?
SKh. 379, from Grave-60, late Cemetery, Period III.

3. BONE OBJECTS

Eighty-eight objects of bone were found at Sarai Khola which fall under two main categories: (a) Implements, and (b) personal objects. For their distribution, see below (Table 6).

Periods Total	*Awls*	*Perforators*	*Spatulas*	*Points*	*Pressure flakers*	*Antimony rods*	*Hair dividers*	*Buttons*	*Combs*	*Miscellaneous*	*Total*
Surface	1	1	—	—	—	—	—	—	—	—	2
IV	2	1	—	—	—	2	1	—	—	—	6
II	13	24	—	18	4	3	4	2	1	1	70
IA	—	1	1	1	—	—	—	—	–	1	4
I	1	1	2	—	2	2	—	—	—	—	8
Total:	17	28	3	19	6	7	5	2	1	2	90

Table 6. The stratigraphic distribution of bone objects at Sarai Khola.

(a) Implements

The bone implements make their first appearance in Period I but were more abundant in Period II. They come under five main categories; awls, perforators, spatulas, points and pressure flakers (Table 6). The Sarai Khola bone implements have close resemblance with those found at Gumla[9], Kile Ghul Mohammed and Damb Sadaat in the Quetta valley[10], Amri,[11] Mundigak[12] and at Mohenjodaro[13].

The selected implements are illustrated and described below.

Plate VIIA

1. Flattened-bone splinter spatula with broad blunt blade, polished and rounded at the tip. Partly broken. (Fig. 5, No. 1).
SKh. 208, from Southern Trench, Sq. 18/Z, (10), Transitional Period IA.

2. Carefully polished, slender bone splinter needle?, lenticular in cross section with an unfinished eye in one end and the other end worked to a point. Length 1.9 inch (Fig. 5, No. 2).
SKh. 624, from Trench A, Sq. 17/X, (11), Period I.

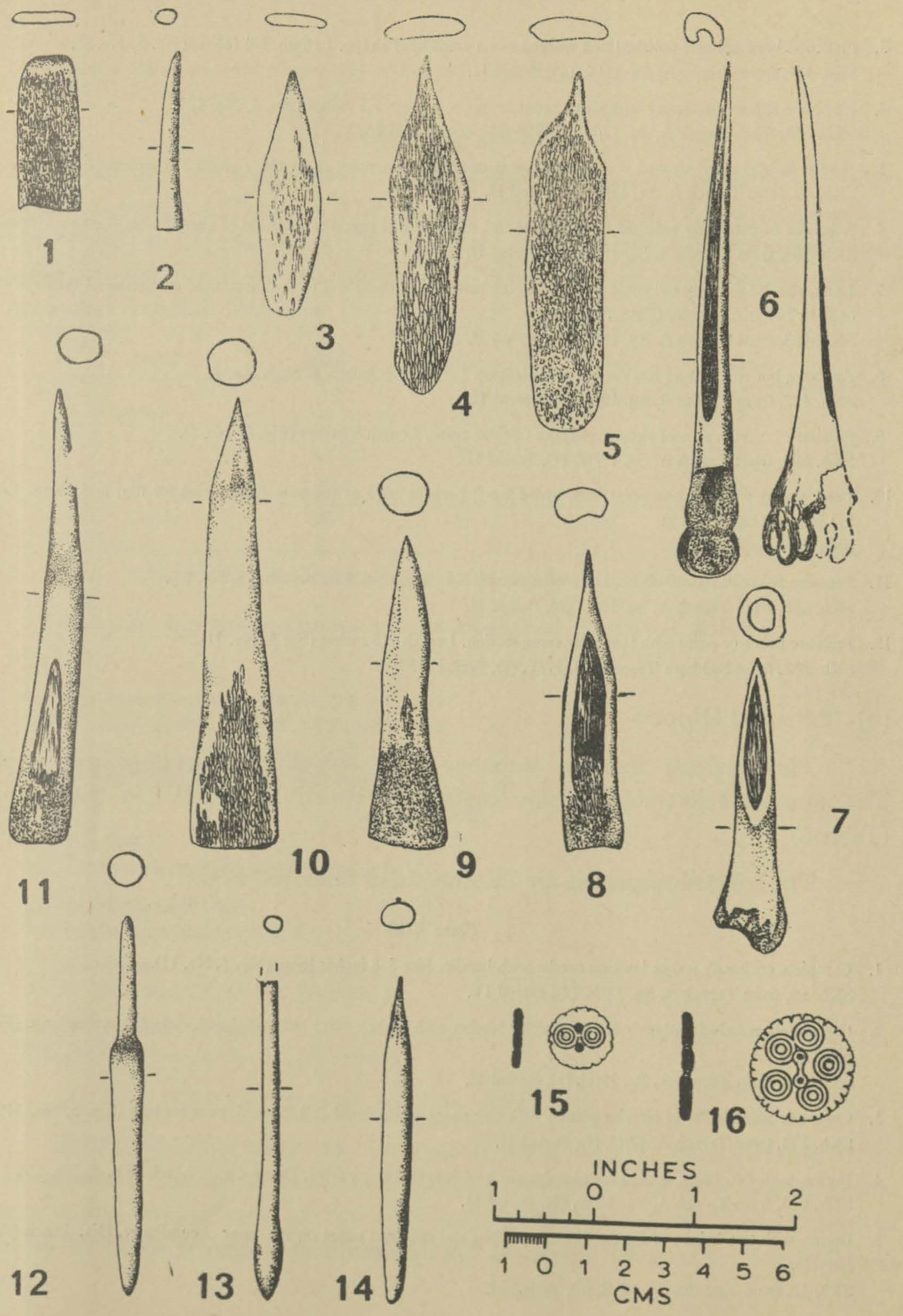


Figure 5. Bone Objects.

6. Fragement of comb with incised circular designs. Width. 1.4 inch. A comb with similar circular incised designs has been found at Mohenjodaro and illustrated by Mackay at Pl. C. No. 15.
SKh. 315, from Trench A, Sq. 16/P (4), Period II.

4. SHELL OBJECTS

Shell was rarely used at Sarai Khola for making personal ornaments like beads, bangles and pendants (Table 7). The use of shell started at Sarai Khola in the earliest levels of Period II and during this period mostly beads were prepared. One example of shell bangle is also present. In Period IV shell was mostly used for bangles and bracelets. Pendants and beads were also occasionally made.

Periods	*Beads*	*Bangles*	*Pendants*	*Total*
Surface ..	7	5	—	12
IV ..	3	14	1	18
II ..	10	1	—	11
Total:	20	20	1	41

Table 7. The distribution of shell objects stratigraphic at Sarai Khola.

Only the selected specimens are described and illustrated as below.

Plate VA

13. Shell, long truncated cylindrical circular. (Fig. 4 No. 13).
SKh. 622, from Trench A, Sq. 18/T, (9), Period II.

14. Shell, long cylindrical rectangular. (Fig. 4 No. 14).
SKh. 94, from Trench A, Sq. 17/R, (4), Period II.

and Plate VIIIA

1. Pendant of Shell.
SKh. 376, from Trench B, Sq. 18/F, (2), Period IV.

2. Fragment of conch shell bangle.
SKh. 7, from Sq. 14/N, (2), Period IV.

3. Fragment of shell bangle with triangular section.
SKh. 625, from Trench A, Sq. 17/V, (9), Period II.

4. Fragment of a conch shell bracelet.
SKh. 244, from Trench B, Sq. 18/E, (2), Period IV.

5. STEATITE OR PASTE OBJECTS

Steatite or white paste was the most favourite material during Period II for making usually circular disc and occasionally cylindrical beads. The use of steatite began in the earliest levels of Period II and persisted to the end. The excavations yielded 89 beads belonging to Period II and 21 similar beads were collected from surface.

In Period III, a bracelet of 48 paste beads of white and light-red colour (Pl, VB, No. 6-53) was found in Grave-60 of the Late Cemetery.

The selected beads are illustrated and described as below.

Plate VA

15. Steatite, white paste, long cylindrical circular. (Fig. 4 No. 15).
SKh. 573, from Trench A, Sq. 13/U, (9), Period II.

16. Steatite, white Paste, disc circular (Fig. 4 No. 16).
SKh. 443, from Trench A, Sq. 18/S, (7),Period II.

17. Steatite, white paste, disc circular.
SKh. 385, from Trench A, Sq. 18/R, (4), Period II.

18. Steatite, white paste, a string of 54 tiny disc circulars.
SKh. 441, from Trench A, Sq. 18/R, (5), Period II.

Plate VB

6-53 Steatite, paste. A bracelet of 48 disc beads of white and pale red colour.
SKh. 397, from Grave-60, late Cemetery, Period III.

6. FAIENCE OBJECTS

Faience was used in the late levels of Period II for making bangles. Only five fragments of faience bangles were found at Sarai Khola, of which three came from the last occupational levels of Period II and two from surface. The faience bangles are with triangular or circular sections. No specimen is illustrated here.

7. TERRACOTTA OBJECTS

Terracotta objects, with the exception of pottery described in Chapter II, found at Sarai Khola belong to Period IA (Transitional), II and IV. They include (a) personal objects, (b) play objects, (c) figurines (d) tiny pots, (e) dabbers and ladles and (f) miscellaneous objects.

(a) Personal Objects

Personal objects of terracotta include (i) beads (Pl. VIIIB), and (ii) bangles (Pl. IXA).

Beads

Only twenty-four terracotta beads were found at Sarai Khola of which three came from Period II, fourteen from Period IV and seven from the surface. In Period II, terracotta beads occur in the middle and late levels only (Pl. VIIIB, No. 1, 2, and 3).

The selected beads are illustrated as below.

Plate VIIIB

1. Long truncated bicone circular bead.
   SKh. 509, from Trench A, Sq. 17/X, (7), Period II.
2. Long truncated barrel circular bead.
   SKh. 83, from Trench A, Sq. 17/R, (4), Period II.
3. Short truncated pear-shaped circular bead, with incised parallel lines.
   SKh. 289, from Trench B, Sq. 18/E, (4), Period II.
4. Long truncated bicone circular bead.
   SKh. 123, from Trench A, Sq. 18/S, (2), Period IV.
5. Short truncated bicone circular bead with deep incised line.
   SKh. 259, from Trench B, Sq. 16/J, (2), Period IV.
6. Pulley-like short bead or ear pendant, with plano-convex sides and concave circular section.
   SKh. 337, from Trench A, Sq. 18/U, (2), Period IV.
7. Short truncated circular bead with incised vertical and oblique lines in two parallel lines.
   SKh. 349, from Trench B, Sq. 16/I, (1), Period IV.

Bangles

No other object of terracotta was more popular than bangles at Sarai Khola. They first occur in the transitional Period IA and persisted throughout Period II. A total number of 383 bangles were found, out of which 2 came from Period IA (Transitional), 307 from Period II, 24 from Period IV? and 50 from the surface. Out of the total number, 17 were double or triple-conjoined bangles. All terracotta bangles found at Sarai Khola are plain and undecorated. Eighty per cent of the bangles are of pale-red and red colour while 20 per cent is represented by grey colour bangles, introduced in the mid levels of Period II. In order of appearance, these may be classified (a) traingular sectioned, (b) rectangular sectioned, (c) square sectioned, (d) circular sectioned and (e) double or triple-conjoined.

The selected pieces are illustrated and described as below.

Plate IXA

1. A complete pale-red terracotta bangle with triangular section. Inner dia. 1.5 inch.
   SKh. 585, from Trench A, Sq. 18/X, (10), Transitional Period IA.
2. Fragment of red terracotta bangle with triangular section. Inner dia. 1.7 inch.
   SKh. 182, from Southern Trench, Sq. 17/Z, (7), Period II.
3. A fragment of a red terracotta bangle with square section. Inner dia. 2 inches.
   SKh. 386, from Trench A, Sq. 18/R, (4), Period II.
4. Fragment of a grey terracotta bangle with square section. Inner dia. 2.3 inches.
   SKh. 486, from Trench A, Sq. 17/U, (4), Period II.

5. Fragment of a grey terracotta bangle with rectangular section. Inner dia. 1.5 inch. SKh. 449, from Trench A, Sq. 17 U, (7), Period II.

6. Fragment of a grey terracotta bangle with circular section. Inner. dia. 2.6 inches. SKh. 424, from Trench A, Sq. 17/R, (5), Period II.

7. A fragment of terracotta double conjoined bangle. Inner dia 2.6 inches. SKh. 204, from Southern Trench, Sq. 18/Y, (4A), Period II.

8. Fragment of a grey terracotta triple conjoined bangle. Inner dia 2.3 inches. SKh. 158, from Southern Trench, Sq. 18/Y, (4A), Period II.

(b) Play Objects

Terracotta play objects are essentially childern objects and are, therefore, not very well made. They mostly occur in the late levels of Period II and in Period IV. They include, (i) wheels—which are of two types (a) hubbed wheels which only occur in Period II and, (b) hubless which occur in Period IV; (ii) playing disc—usually made from potsherds and occur in both Period II and IV; (iii) tops, (iv) balls or sling balls, (v) marbles (Table 8).

Periods	*Hubbed wheels*	*Hubless wheels*	*Playing discs*	*Tops*	*Sling Balls*	*Marbles*	*Total*
IV ..	—	3	3	—	2	3	11
II ..	3	—	2	3	9	—	17
Total:	3	3	5	3	11	3	28

Table 8. Showing the distribution of terractotta play objects at Sarai Khola.

The selected specimens are described below.

Plate IXB

1. Hubbed wheel, under fired, with a plano-convex section. Dia. 2.2 inches. SKh. 133, from Trench A, Sq. 16/O, (4), Period II.

2. Hubless wheel made from potsherd. Dia. 2 inch. SKh. 82, from Trench A, Sq. 18/R, (1), Period IV.

3. Cart wheel. Dia. 3.7 inches, Thickness 1.3 inch. SKh. 66, from Sq. 16/P, (1,) Period IV.

4. Playing Disc, made from potsherd. Dia. 1.7 inch. SKh. 145, from Trench A, Sq. 18/V, (4), Period II.

5. Same as at No. 4 above. Dia. 1.6 inch. SKh. 321, from Trench A, Sq. 18/P, (4), Period.

6. Terracotta top. SKh. 301, from Trench Sq. 18/P, (4), Period II.

7. Same as No. 6 above.
SKh. 279, from Trench A, Sq. 17/P, (4), Period II.

8. Terracotta sling ball, underfired.
SKh. 166, from Southern Trench Sq. 17/Z, (4), Period II.

9. Same as No. 8 above.
SKh. 167, from Southern Trench, Sq. 17/Z, (4), Period II.

10. Same as No. 8 and 9 above.
SKh. 201, from Southern Trench, Sq. 17/Z, (4A), Period II.

11. Terracotta marble.
SKh. 205, from Southern Trench, Sq. 18/Y, (4B), Period II.

(c) Figurines

Terracotta figurines found at Sarai Khola includes (i) Human Figurines and (ii) Animal Figurines.

(*i*) *Human Figurines*

Nine human figurines have been found at Sarai Khola. Out of the total number, one came from Period IA (Transitional), four from Period II, one from Period IV and three from surface. They all represent female figures. Here the figurines may be discussed according to the Periods.

Period II

The terracotta female figurines of Period II are typical and characteristic of the age. Similar figurines have been found at Gumla[14], Rehman Dheri[15], Musa Khel[16] and Jalilpur[17].

The figurines of Sarai Khola Period II fall into three main categories.

(*a*) This category includes flat seated figurines made in two parts. The lower portion below the neck is made from a lump of clay showing legs thrown forward, heavy and broad hip, slim round waist and flat back. The portion above neck was moulded separately and joined with the lower part. Prominently pointed breasts were applied on the lower portion and short pointed arms thrown upwards were applied to the sides on the lower portion just beside the breasts. This type closely resembles Type C of Gumla figurines[18]. Only two specimens, (Pl. XB and Pl. XIA, No. 1) have been found at Sarai Khola.

(*b*) This type is perhaps made in one with pinched face, beaked nose and applied unproportioned pointed breasts and fine hair-do. The arms were

also applied on the shoulders. This example, although broken, shows downward inclination of arms. Only one specimen of this type has been found at Sarai Khola (Pl. XA).

(*c*) Seated figurines with legs spread and arms perhaps folded. Only one broken specimen of this type has been found at Sarai Khola (Pl. XIA, No. 3).

(*d*) This category includes figurines with slim waist and proportional hips and applied breasts and separately joined arms, which are folded below the breasts. This type occurs in the late levels of Period II. Only one example (Pl. XIA, No. 2) has came from the stratified layer while other two (Pl. XIA, No. 4 and 5) have been collected from the surface.

Period IV

The terracotta figurines of Period IV are represented only two examples (Pl. XIB and Pl. XIA, No. 6). They are eloborately made and profusely ornamented. They represents both hollow and solidly made figurine.

All the terracotta human figurines found at Sarai Khola are illustrated and described as below.

Plate XA

Category (b), made of well-levigated clay. It is dull-red slipped. Broken below the breasts.
SKh. 521, from Trench A, Sq. 18/V, (8), Period II.

Plate XB

Category (a), made of well-levigated clay and is red slipped. Broken partly above shoulders and the right breast missing.
SKh. 525, from Trench A, Sq. 17/V, (8), Period II.

Plate XIA

1. Category (a), made of well-levigated clay and treated with wash. Broken at both sides.
SKh. 642, from Trench A, Sq. 18/U, (8), Period II.

2. Category (d), made of well, levigated clay and red slipped. Broken above shoulders and below the hips. Applied breasts and arms also missing.
SKh. 421, from Trench A, Sq. 17/W, (4), Period II.

3. Category (c), made of well-levigated clay and red slipped. Legs, arms and neck broken.
SKh. 141, from Trench A, Sq. 17/T, (4), Period II.

4. Category (d), made of well-levigated clay and red slipped. This specimen is unevenly fired. Portions above neck and below hip broken and applied breasts are also missing. Here the back of the figurine is shown.
SKh. 118, from surface.

5. Category (d), made of well-levigated clay and treated with wash. Broken above shoulders and below the hips.
SKh. from surface.

6. Solidly made with well-levigated clay and is red slipped. Right hand resting on the breast. Partly broken. Typologically, it belongs to Period IV.
   SKh. 119, from surface.

Plate XIB

Elaborately made with well lavigated clay and treated with wash. It is hollow inside. The face is painted with red ochre. Arms and below breasts broken. It is finely made with profuse iewellery ornaments, elaborate head-dress and fine hair-do.
SKh. 65, from Sq. 14/Q, (2), Period IV.

(*ii*) *Animal Figurines*

Thirty-seven terracotta animal figurines have been found at Sarai Khola, of which 15 came from Period II, 18 from Period IV and 4 from surface. Since the figurines discovered from Period II and IV are different from each other in shape, technique and treatment, they are described here according to the periods.

Period II

The terracotta animal figurines occur in the mid-levels and onward in Period II. Among 15 animals figurines of Period II, only five are partly complete or are suggestive of some shape. Others are fragments, which are not helpful in identifying the animals and therefore, are not illustrated here. The five examples represent painted and plain humped bulls (Pl. XIIA, No. 3 and 5), ram (Pl. XIIA, No. 1), dog (Pl. XXIA, No. 2) and possibly a sheep (Pl. XIIA, No. 4).

The selected specimens are illustrated and described as under.

Plate XIIA

1. Terracotta ram with horns turned backward and down. Legs and tail broken. The figure is red slipped.
   SKh. 181, from southern Trench, Sq. 18/Z, (6), Period II.
2. Terracotta dog with legs broken.
   SKh. 168, from Southern Trench, Sq. 17/Z, (4A), Period II.
3. Terracotta humped bull with horns, legs and tail partly broken. The figure is red slipped and painted in black.
   SKh. 478, from Trench A, Sq. 18/U, (6), Period II.
4. Terracotta sheep? front face and legs broken.
   SKh. 407, from Trench A, Sq. 18/T, (5), Period II.
5. Terracotta humped bull with truncated mouth. Horns, front legs and hind portion broken.
   SKh. 454, from Trench A, Sq. 17/X, (6), Period II.

Period IV

The remaining twenty-two terracotta figurines consist of 18 found from Period IV and 4 collected from the surface. There are 15 humped bulls (Pl. XIIB, and Pl. XIIIANo. 4, 5 and 6). One ram, (Pl. XIIIA, No. 1) one dog (Pl. XIIIA, No. 2)

one lion head (Pl. XIIIA, No. 3) and one horse (Pl. XIIIA, No. 7). The bulls are of special interest. They are made in various styles.

(*i*) hollowed inside and perhaps made in parts and joined togather.
(*ii*) Solidly made.
(*iii*) made from pottery.

The selected specimens are illustrated and described below.

Plate XIIB

Terracotta humped bull with prominent stout horns, truncated mouth, applied circular bulging eyes and pin-hole nostrils and ears.
SKh. 52, from Trench B, Sq. 18/F, (1), Period IV.

Plate XIIIA

1. Terracotta ram figurine, legs broken.
SKh. 9, from Sq. 19/N, (9), Period IV.
2. Terracotta figurine of a sitting dog, with thick truncated mouth.
SKh. 164, from Trench A, Sq. 18/I, (2), Period IV.
3. Front head portion of terracotta lion figurine.
SKh. 303, from Trench B, Sq. 19/F, (2), Period IV.
4. Terracotta humped bull, truncated mouth, applied circular eyes and applied rope around the neck. Front legs partly broken and hind portion missing.
SKh. 296, from Trench B, Sq. 18/F, (2), Period IV.
5. Terracotta humped bull with applied bulging eyes, under-fired, hind portion missing.
SKh. 276, from Trench B, Sq. 18/H, (2), Period IV.
6. Humped bull figurine, made out of pottery, rubbed.
SKh. 150, from surface.
7. Terracotta horse figurine with applied saddle. Legs partly broken.
SKh. 126, from surface.

(d) Tiny Pots

Twenty-six tiny pots of terracotta were found at Sarai Khola. 17 came from Period II, 3 from Period IV? and 6 were collected from the surface of both the mounds A and B. These tiny pots (Pl. XIIIB) are all with flat bases and inward tapering thick sides. Few examples also occur with elaborate neck and rim (Pl. XIIIB, No. 9). These tiny pots are essentially handmade and were shaped by pressing thumb on the clay balls and further working the final shape. A majority of specimens are red slipped but untreated examples also occur.

The use of these tiny pots (Pl. XIIIB, No. 1-5, 8 and 9) is any body's guess. But two pots (Pl. XIIIB, No. 6 and7) were certainly used for holding paints, etc. Black substance inside the pots is still preserved.

The selected specimen are illustrated and described below.

Plate XIIIB

1. Circular shaped with flat base and externally red slipped.
SKh. 520, from Trench A, Sq. 17/T, (8), Period II.

2. Flat based with slightly inward tappering sides and red slipped on both the surfaces.
SKh. 581, from Trench A, Sq. 17/W, (9), Period II.

3. Flat based circular shaped with small cavity.
SKh. 451, from Trench A, Sq. 17/T, (6), Period II.

4. Flat based with straight sides, flatened rim, red slip.
SKh. 513, from Trench A. Sq. 17/W, (7), Period II.

5. Same as No. 4 above but with sharp rim.
SKh. 392, from Trench B, Sq. 18/G, (3), Period II.

6. Flat based with convex sides and red slip. It contains black substance of paint inside.
SKh. 446, from Trench, A, Sq. 17/U, (6), Period II.

7. Same as No. 4 above but under fired and it also contains black substancei nside.
SKh. 616, from Trench A, Sq. 17/T, (7), Period II.

8. Same as No. 2 above but bigger in size, under-fired and without surface treatment.
SKh. 489, from Trench A, Sq. 18/U, (8), Perid II.

9. Flat based with collared rim and red slip. It is unevenly fired.
SKh. 512, from Trench A, Sq. 18/Z, (7), Period II.

(e) Dabbers and Ladles

Terracotta utility objects like dabbers and ladles have been found at Sarai Khola in the late levels of Period II. Only two specimens of each type have been found. One from each type is illustrated and described below.

Plate XIV A

1. A complete dabber of terracotta with smooth convex base.
SKh. 77, from Trench A, Sq. 17/R, (3), Period II.

2. A complete cup-shaped ladle of terracotta with flat base and red slip.
SKh. 394, from Trench A, Sq. 18/Q,(5), Period II.

8. MISCELLANEOUS OBJECTS

The miscellaneous terracotta and stone objects include (i) prismoid objects and (ii) rectanguler-legged objects. These objects have come from the late levels of

Period II and may perhaps be of some religious nature. They are illustrated and described below.

Plate XIV B

1. Triangular prism like terracotta object made of well levigated clay and red slipped. It is painted in black on each side with circular designs.
   SKh. 404, from Trench B, Sq. 16/H, (3), Perod II.

2. Same as at No. 1 above.
   SKh. 404A, from Trench B, Sq. 16/H, (3), Period II.

Plate XIVC

1. Fragment of a rectangular-legged terracotta object with flat and plain top and red slip. Its only one leg is preserved.
   SKh. From Southern Trench, Sq. 18/AA, (4B), Period II.

2. Rectangular four legged pedestal ? of varigated red stone with obliquely drawn incised lines on the top surface.
   SKh. Period II ?

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2. Prof. A.H. Dani, in *Ancient Pakistan*, Vol. III (Peshawar, 1967), Fig. 62 ,Nos. 5 & 6.
3. *Ibid.*, Pl. LVII. Nos. 1-4 and Fig. 62, Nos. 1-4.
4. Abdur Rahman, 'Minor Antiquities in Excavations of Balambat Settlement Site,' *Ancient Pakistan*, Vol. III, (Peshawar, 1967), Pl. LVIb.
5. E.J.H. Mackay, Further *Excavations at Mohenjodaro*. (Delhi, 1937), Pl. CIV, No. 13.
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11. Jean Mari Casal, *Fouilles D' Amri*, (Paris, 1964), Fig. 123, Nos. 1-9.
12. *Fouilles de Mundigak*. (Paris, 1961), Fig. 123, Nos. 3-5.
13. Sir John Marshall, *Mohenjodaro and the Indus Civilization*. (London, 1931), Pl. CXXXII Nos. 7-9ii and 12.
14. 'Excavations in the Gomal Valley,' *Ancient Pakistan*, Vol. V, (1970-71), Pl. 22.
15. *Ibid.*, Pl. 72 Nos. 19,20 and 23.
16. *Ibid.*, Pl. 75 No. 1.
17. The excavations at Jalilpur were carried out by Dr. M. Rafique Mughal in 1971. A Summary report appears in the present issue of this Journal.
18. *Op. cit.*, p. 22.

CHAPTER II

THE POTTERY

by

Dr. Mohammad Rafique Mugha

and

Muhammad Abdul Halim

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In the following pages, the pottery from the early prehistoric levels of Sarai Khola (Periods I & II) has been defined and documented separately. Similarly, the painted wares and those with incised potter's marks constitute separate sections. The pottery from the early historical levels on top is described at the end of this Chapter.

INTRODUCTION TO THE POTTERY OF PERIODS I and II OF SARAI KHOLA[1]

by

M. Rafique Mughal, Ph. D.

The excavations at Sarai Khola during the winter seasons of 1968-71 yielded pottery assemblages belonging to Sarai Khola I, IA (Transition), II and IV[2]. The pottery of Sarai Khola not only helps in determining the chronological sequence of various occupations but also provides evidence for foreign contacts during the fourth and third millennia B.C.

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1. This study is based on the pottery recovered from one large trench 'A' which was excavated down to the virgin soil without reducing the area from top to bottom. Nothing was added to the sample from other trenches while compiling the statistical data. However, the illustrations include a few pottery types from other trenches for giving better idea of their form and painted designs. The material from the early historical levels found in layer 4 and above has been treated separately.

The author is thankful to Mr. Muhammad Abdul Halim for his invitation to contribute this section in the present form which is different from the previous excavation reports so far published in this Journal. The author has benefited from the discussions with Dr. F.A. Khan, who had directed the excavation at Sarai Khola until his retirement in 1970, and especially, to Mr. Richard H. Meadow for his suggestions and for revising the statistical data given in Table 10. For the opinions expressed in this particular section, or for the omissions etc., the author alone is responsible.

2. The archaeological or cultural divisions of the sequence of occupations at Sarai Khola, as proposed earlier by M.A. Halim (*Pakistan Archaeology*, No. 7 (1970-71), p. 38), have been retained. To the present author, the distinction of the "transitional" Period IA, does not seem to be a real one. Instead, Period IA (layer 10) seem to represent the earliest level of Period II in which most of the wheelmade pottery types of Period II make their first appearance. It should be noted that among the total number of 28 main and sub-types of pottery, only 4 handmade pottery types belong to Period I, while 12 new types appear suddenly in a single ("transitional") layer 10 of Period IA. The remaining 12 main and sub-types of pottery, all but one (type XVII), appear in the early levels (layer 9 and 8) of Period II. In Period I, the whole pottery assemblage consists of handmade wares, while Period II has revealed 24 pottery types and their variants, among which only two are handmade and the remaining are wheelmade. The frequency of pottery types by percentage as shown in Table 10, clearly demonstrates that the change from Partiod I to II in the vessel forms and also in their manufacturing technique was abrupt and sudden. It, therefore, follows that there was no "overlap" between the two Periods I and II, as suggested earlier (*Pakistan Archaeology*, No. 7, pp. 30-31).

(*Continued on page* 35)

Outstanding features of the pottery of Period I are that it is all handmade, that it is slipped with dark-red colour, and that it is burnished on both sides of the vessesl or only externally. There are only four principal types of porttery in Period I (Tables 9 & 10). The fabric is generally fine but some examples are also present in which tempered clay has been used. The body is generally thick and the bases show basket impressions. However, it should be noted that the basket markings do not occur on the external surface of the vessels like those of Anjira I and II (Kalat), Kile Gul Mohammed II-III (Quetta) and related basket-marked wares found recently from Periano Ghundai (Zhob) and Qila Said Tepe (southern Afghanistan)[3]. Although basket impressions occur on the bases and the surfaces are treated by burnishing or by the application of mud mixed with sand or grit, there is no evidence to show that the handmade wares of Period I were moulded in baskets and then surface smoothened. Instead, it seems that either the bowls and vessels were made resting on a mat or they were placed on a mat for drying after they were made[4]. The incised lines which are drawn on the edge of the bases are deep and therefore were intentionally done. As regards burnishing technique there are several examples which provide clues to the treatment of the exterior surface. It seems that a red slip was applied and then the surface was rubbed with a dabber or stone so as to produce a glossy surface. Under the burnished surface the body shows marks of scratching as if it was intended to receive a thin coat of mud before the application

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((*from page* 34)

The prehistoric sequence at Sarai Khola in the main Trench A, is represented by layers 4 (top) to 12 (bottom). Their grouping is as follows:

Period II	Layers 9 to 4	
		Late phase: Layers 5 and 4
		Middle phase: Layers 7 and 6
		Early phase: Layers 9 and 8
Period I A	Layer 10 (transitional but otherwise early part of Period II)	
Period I	Layers 12 and 11	

C-14 dates are not yet available. Since the ceramic and non-ceramic materials from Period II provide the strongest parallels with several early Harappan sites in the Greater Indus Valley (Pakistan and India), it is reasonable to suggest that Period II at Sarai Khola may have begun between 3100 and 3000 B.C. The mature Harappan phase is not represented at Sarai Khola. Therefore, it seems likely that Period II continued until the middle of the third millennium B.C.

Period I at Sarai Khola is thought to represent an occupation of "Neolithic" stage of material development due to the presence in it of bone tools, celts and handmade pottery with burnished and scratched external surface and mat impressions on the base. The structures in period I were not present. To the present author, however, this technological criterion for the "Neolithic" at Sarai Khola is not very satisfactory. The distribution of stone and bone objects (see Tables 1 and 6 in the section on Antiquities) clearly demonstrate that in period I, only *one* celt was found, whereas 11 celts are reported in period II. Similarly, among the bone objects, only one awl, one perforator, and two spatulas were recovered from period I, as compared to 13 awls, 24 perforators and 18 bone point found in period II. It is only in pottery that a major technological change is reflected between period I and II. The occurrence of an overwhelming number of stone celts and chisels, bone points, awls, perforators etc., in the assemblages of period II which are assignable to the early third millennium B.C., should be studied and interpreted in relation to the physical environment peculiar to the Taxila valley of the Potwar Plateau which is different from the ecology of the Indus river plain.

3. The analysis of the ceramic data invalidates the preliminary observation made earlier (*Pakistan Archaeology*, No. 7, pp. 30-31) that the burnished bowls of Sarai Khola (type I) and other pottery (type X) were related with those from Kalat and the Quetta Valley.

4. The impressions on the base are quite deep, suggesting that the vessels were most probably made on a mat. The bowls may have been moulded inside the baskets, leaving deep impressions on the bottom, and those on the sides were smeared or smoothed in the process of burnishing. I am indebted to Mr. Richard H. Meadow for drawing my attention to this feature.

of slip and burnishing. In some exaples (Sarai Khola pottery type II), thick coat mixed with mud was applied on the exterior surface on which sand was dusted. The application of mud on the surface of vessels strikingly resembles the technique apparant in Amri level IA[5]. These wares also occur in the 4th and early 3rd millenium B.C. levels (I and II) of Jalilpur in central Panjab which was excavated by the present author[6]. It must be noted however that these wares with applied mud are different from the sand slipped, granulated wares of Anjira. It may also be added that basket marked wares of Sarai Khola have no resemblance in form or in surface treatment to those of Kile Gul Mohammed and Anjira.

At Sarai Khola, basket impressions occurring on the bases only are reminiscent of the Neolithic pottery of the Yang-shao horizon in North China and of the Neolithic pottery of Burzahom in Kashmir. In addition to the basket impressions on the bases of vessels and bowls (cf. Sarai Khola types I, II, III and IV), the technique of scratching the external surface with straw brush, as on our type V, has parallels with Neolithic North Chinese pottery and also with the Burzahom neolithic pottery.[7] There are however local differences in the colour of pottery. In is also significant to note that the earliest levels of Sarai Khola and Burzahom yielded bone tools and ground stone celts which are also strikingly similar to those associated with Yang-

5. J-M. Casal, *Fouilles d'Amri* (Paris, 1964), Fig. 45, No. 55. Amri IA, the first occupation on the site, may have begun sometime during the first half of the fourth millennium B.C., because two C-14 dates available from the later phases IB and IC are 2900 and 2670±113 B.C. respectively (on half-life of 5730 years) or 3600 and 3220 B.C. when re-adjusted with MASCA corrections proposed recently by E.K. Ralph and H.N. Michael (etds.), *Dating Techniques for Archaeologist* (Cambridge, Mass., 1971), pp. 1-48.

6. Reported briefly in the present issue of this Journal and also, 'New Evidence of the Early Harappan Culture from Jalilpur, Pakistan, *Archaeology* (New York, in press). At Jalilpur, thick-textured, handmade wares having a secondary coating of mud mixed with pottery bits or grit on their exterior surface, appear first in the earliest occupation levels assigned to Period I (or Pre-early Harappan). These wares persist in all levels of Period II (Early Harappan) in association with the short-necked Kot Dijian and painted white-and-black "Sothi" wares. The early Harappan "Sothi" wares are mostly concentrated in the east-central Indus Valley, along the Ghaggar-Hakra river and extending into the Indian territory of northern Rajasthan and East Panjab.

7. Cf. Cheng Te-K'un, *Archaeology in China*. Vol. I. (Cambridge, 1959), pp. 73-86, Pl. XVIII, 1-2; K.C. Chang, *The Archaeology of Ancient China*. Revised Edn. (New Haven, 1968), p. 107; and *Indian Archaeology : A Review* (1960-61), p. 11, Pl. XVI-A; (1961-62), Fig. 5, Nos. 6, 10, 13, 17, 18, 21 and 22, Pl. XXXVIII-A; and H. de Terra, 'The Megaliths of Bursahom, Kashmir: A New Prehistoric Civilization from India', *Proceedings of the American Philosophical Society* (Philadelphia, 1942), p. 492, Fig. 9.

The main similarities among the neolithic materials of Sarai Khola, Burzahom and Yang-shao are: (i) handmade pottery with basket/mat impressions on the base or incisions on the external surface; (ii) presence of celts of elongated trapezoidal, rtiangular and cylindrical in shape; and (iii) abundance of bone tools (see section on Antiquities, p. 14 above). The notable differences are in their materials culture and relative chronology. Both red and grey wares with basket impressions are associated with the Yang-shao Neolithic assemblages. At Burzahom and at other nine contemporary sites in the Jhelum river valley, (*Indian Archaeology : A Review* (1962-63), p. 9), the basket or mat marked pottery is mostly grey though mixed with red pottery. But at Sarai Khola I, only the red burnished pottery has been found. At the newly discovered site of Jhang, located west of Sarai Khola, the early strata contemporary with Sarai Khola I, contain red burnished pottery. The pit dwellings of Burzahom type do not exist at Sarai Khola. Chronologically, the Burzahom and Sarai Khola neolithic levels do not seem to be precisely contemporary with each other. The neolithic Period I at Sarai Khola stratigraphically pre-dates the early Harappan horizon (Period II) starting sometime near the end of the fourth millennium B.C. but, at Burzahom, among eight C-14 dates, six fall in the third millennium B.C., when readjusted with MASCA corrections as given below (on half-life of 5730±40 years):

(*Continued on page* 37)

made wares occurring in the "transitional" level are strictly those which continue from Period I. The "transitional" Period IA hearlds a major change in material culture at Sarai Khola because most of the characteristic wares of Period II appear rather abruptly at this stage. For example, the short-necked Kot Dijian wares with plain exterior (Sarai Khola pottery type IX), and those with series of horizontal grooves (type VII), the flanged vessels (type VIII), and their lids (type XIII) appeared first in Period IA and become the most popular wares of Period II. These wares are distributed over many early Harappan sites of the Punjab, Sind and even northern Baluchistan.[10] This change in ceramics also coincides with the appearance of a variety of objects including female and animle figurines, metal objects, beads of carnelian, lapis lazuli, agate, and terracotta bracelets. There is no doubt that a major cultural change took place at this time and a culture emerged which was to set its own pattern throughout the Indus River Valley during the third millennium B.C. The established contacts with North China were replaced by those with South-western Asia.

All the new pottery forms which emerged in the "transitional" level and in Period II are wheel-thrown with the exception of vessels grouped under Sarai Khola pottery types V and VI. The handmade pottery type V represents globular vessels with out-curved rim and carinated neck. A thin coat of fine mud is occassionally applied on the scratched surface but the surface is not treated with slip or by burnishing. In form, however, this type is identical to the handmade red burnished vessels of type I which are abundant in Period I. Sarai Khola pottery type VI represents small handmade and unburnished bowls or cups which occur in small numbers. Although new handmade wares do appear in IA and II, these are not burnished at all. This feature is in sharp contrast to the whole pottery assemblage of Period I which is all burnished and treatmed with deep-red slip. There is also a difference between the clays used in making the handmade wares characteristic of Period I and II. The handmaue pottery of Period I is thick and coarse in fabric and frequently tempered, while in Pariod II, the wheel-thrown vessels are generally made of fine and well levigated clay and tempering of clay is exteremly rare. It has already been stated above, that the handmade wares of Period I which continue in Period II mostly occur in the early levels of Period II. Among the four principal types, only two persist up to the middle levels of Period II while the rest disappear sud-

10. Fully discussed and summarized by the present author in, *The Early Harappan Period in the Greater Indus Valley and Northern Baluchistan* (C. 3000-24000 *B.C.*), 1970. Department of Anthropology, University of Pennsylvania, Ph.D. Thesis, pp. 117-124 and Table 4. New evidence from the excavations at Gumla, Jalilpur, Siswal and Mitathal, and fresh explorations in northern Baluchistan have further confirmed the parallels pointed out above.

denly. In the upper levels of Period II, only one type (Sarai Khola pottery type I) occurs in negligible numbers (Tables 9 and 10).

An overwhelming number of wares belonging to Period II at Sarai Khola are made on the fast wheel. They are large vessels of thick texture and small bowls of thin fabric with delicate sides. Most of the pottery is of red ware, made of well-levigated clay and well fired. The most popular decoration seems of red slip. The flanged vessels and a few other types are decorated in chocolate or black colour on buff slip. The painted designs in black-and-white on red also occur. The use of white paint in combination with black recalls the painted pottery tradition of Gumla Period II, the "Sothi" wares of Kalibangan-I and of East Panjab, Jalilpur and the material from the surface of several sites located along the dired up Ghaggar-Hakra river in the central Panjab and also recorded recently from the Zhob and Loralai valleys of northern Baluchistan.[11] The geographical extent of certain pottery vessels belonging to Period II embraces the Greater Indus Valley in both Pakistan and India and northern and central Baluchistan. The most extensively distributed pottery types consist of the Kot Dijian wares with short neck and globular body (Sarai Khola pottery type IX and its five sub-types IXA to IXE), those with grooved exterior (type VII), flanged vessels (type VIII) and their lids (type XIII). The same very area was later on dominated by the mature phase of the Harappan culture. Elsewhere, a detailed analysis of the early cultural assemblages as available from Kot Diji, Kalibangan-I and of other related or contemporary cultural materials of the Greater Indus Valley have strongly suggested that chronologically, as well as in terms of cultural continuity and development, these assemblages togather represent an *Early Harappan* phase of the Harappan (or Indus) Civilization which may have begun in the Indus valley during the last quarter of the fourth millennium B.C.[12] In the following pages, in which the pottery types of Sarai Khola are defined and illustrated, it will be clear that the Period II is contemporary with the settlements so far discovered in the Greater Indus Valley which fall between 3200 to 2500 B.C. There are, however, some stylistic differences of local nature among the decorative designs painted on pottery, but similarities in form and painted designs among these

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11. The examples are found at Gumla, A.H. Dani, 'Excavations in the Gomal Valley', *Ancient Pakistan*, No. 5 (Peshawar, 1970-71), Fig. 17, Nos. 103 and 109; Pl. 77, Nos. 11-15; at Kalibangan, *Indian Archaeology : A Review* (1961-62), p. 42; (1962-63), p. 20; at Mitathal and Siswal, Suraj Bhan, 'Excavations at Mitathal (Hissar) 1968', *Journal of the Haryana Studies* (Kurukshetra, 1969), p. 7 ff; 'The sequence and spread of Prehistoric Cultures in the Upper Sarasvati Basin', Proceedings of the Symposium held at the Tata Institute of Fundamental Research, Bombay, 1972 (in press); Siswal: A' Pre-Harappan site in Drishadvati Valley', *Puratattva*, No. 5 (New Delhi, 1972), pp. 44-46; and at Jalilpur, M. Rafique Mughal, 'New Evidence of the Early Harappan Culture from Jalilpur, Pakistan', *Archaeology* (New York, in press) and in this Journal. An abundance of pottery typical of the early Harappan sites of the Indus Valley has also been recorded in Baluchistan recently by the present author.

12. As defined by M.R. Mughal, *op. cit.*, 1970.

sites of the early Harappan period are very striking as well as significant for many a cultural and chronological consideration.

The whole pottery collection from the early levels belonging to Periods I and II could be grouped into 17 main types and 11 sub-types on the basis of a set of attributes distinctive of each group. The following definition of the main groups of Sarai Khola pottery, is based on four principal attributes considered togather: (i) vessel form or shape, (ii) manufacturing technique, (iii) fabric and, (iv) surface treatment or decoration. A small group of pottery which did not fit into any of the principal pottery types are treated separately.

THE SARAI KHOLA POTTERY TYPES OF THE EARLY PERIODS I and II

by

M. Rafique Mughal, Ph. D.

The typological frequency of occurrence of pottery of Periods I, IA and II as shown in Tables 9 and 10 is based on the pottery assemblage recovered from Trench A in the area where uniform excavations were carried out from top to bottom. It includes the pottery from our Squares 17 and 18/S,T,U,V,W and X. But while illustrating and describing each type, similar pottery types from other squares and trenches are also included.

There are only four principal pottery types (I, II, III and IV) which occur in Period I, while eight new pottery types (VI, VII, VIII, IX, X, XI, XII and XIII) and four sub-types (VIIA, VIIIA, IXC and IXD) were introduced in the "transitional" Period IA. In Period II, another five new pottery types (V, XIV, XV, XVI and XVII) were further added to the early pottery assemblage. In addition, six sub-types (VIIB, IXA, IXB, IXE, XIA and XIIIA) of the types introduced in IA are recognised in later levels (Table 9).

Pottery Type I: Handmade and Red Burnished Vessels (Fig. 6, No. 1-8)

This types includes fragments of necks and rims of medium size vessels. The complete shapes of these vessels could be not ascertained becuase no full profiles were found. The fragments appear to be handmade with an invariably thick body and uneven surface bearing finger-marks. The ware is fired to a light-red or pale colour. Necks show carinations on the inner side where they join with the lower body, and rims flare out. Characteristically, examples of this type are burnished externally below the neck and internally on the rim. The clay used to make vessels of

	SARAI KHOLA POTTERY TYPES																												
	Layers	*I*	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIIA*	*VIIB*	*VIII*	*VIIIA*	*IX*	*IXA*	*IXB*	*IXC*	*IXD*	*IXE*	*X*	*XI*	*XIA*	*XII*	*XIII*	*XIIIA*	*XIV*	*XIVA*	*XV*	*XVI*	*XVII*
PERIOD II	(4)					4		23			3	6	20	13	12	1		1	31	4		7	5	11	19	3	2		
	(5)	1				7	2	28			1	3	27	19	5	10		1	35	7	2	16	13	16	15	5	1		
	(6)	1				4	5	28			3	9	24	11	5	1	3	3	51	6	7	5	10	6	14	7	1		2
	(7)	3			1	4		26	4	8		5	35	10	13	1	4	1	62	2	1	6	2	3	8	3			
	(8)	6			4	4	5	18	3	1	2	5	18	7	8	5		1	47	1	3	7	2	3	6	2		1	
	(9)	10	1	1	6	7		24	9	3		12	35	13	8	9	3	4	80	10	2	9	2	8	3		4	1	1
IA	(10)	18	6	2	15		1	2	1		2	1	4			2	1		6	1		3	1						
PERIOD I	(11)	28	8	7	10																								
	(12)	11	5	1	9																								
Total of each type		78	20	11	45	30	13	149	17	12	11	41	163	73	51	29	11	11	312	31	15	53	35	47	65	20	8	2	3

Table 9:—Frequency of Sarai Khola pottery types according to numbers in Trench 'A' (Total Sample: 1356 sherds)

		SARAI KHOLA POTTERY TYPES																											
Size of sample	Stratum	I	II	III	IV	V	VI	VII	VIIA	VIIIB	VIII	VIIIA	IX	IXA	IXB	IXC	IXD	IXE	X	XI	XIA	XII	XIII	XIIIA	XIV	XIVA	XV	XVI	XVII	Total %
166	(4)	0	0	0	0	2·4	0	13·9	0	0	1·8	3·6	12·0	7·8	7·2	0·6	0	0·6	18·7	2·4	3·0	4·2	3·0	6·6	11·4	1·8	1·2	0	0·6	99 8
214	(5)	0·5	0	0	0	3·3	0·9	13·1	0	0	0·5	1·4	12·6	8·9	2·3	4·7	0	0·5	16·4	3·3	0·9	7·5	6·1	7·5	7·0	2·3	0·5	0	0	100·2
206	(6)	0·5	0	0	0	1·9	2·4	13·6	0	0	1·4	4·4	11·6	5·3	2·4	0·5	1·4	1·4	24·8	2·9	3·4	2·4	4·4	2·9	6·8	3·4	0·5	0	0·9	99·2
202	(7)	1·5	0	0	0·5	2·0	0	13·0	2·0	4·0	0	2·5	17·5	5·0	6·5	0·5	2·0	0·5	31·0	1·0	0·5	3·0	1·0	1·5	4·0	1·5	0	0	0	101·0
159	(8)	3·8	0	0	2·5	2·5	3·1	11·4	1·9	0·6	1·3	3·1	11·4	4·4	5·0	3·1	0	0·6	29·5	0·6	1·9	4·4	1·3	1·9	3·8	1·3	0	0·6	0	100·0
264	(9)	3·8	0·4	0·4	2·3	2·7	0	9·1	3·4	1·1	0	4·5	13·2	5·0	3·0	3·4	1·1	1·5	30·3	3·8	0·8	3·4	0·8	3·0	1·1	0	1·5	0·4	0	101·0
66	(10)	27·3	9·1	3·0	22·7	0	1·5	3·0	1·5	0	3·0	1·5	6·0	0	0	3·0	1·5	0	9·1	1·5	0	4·5	1·5	0	0	0	0	0	0	99·7
53	(11)	52·8	15·1	13·2	18·9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100·0
26	(12)	42·3	19·1	3·8	34·6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99·8
Mean% 11-12 (Period-I)		47·55	17·1	8·5	26·75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99·9
Mean% 4-9 (Period-II)		1·7	0·07	0·07	0·9	2·5	1·07	12·35	1·2	0·95	0·82	3·25	14·7	6·07	4·2	2·1	0·75	0·85	25·1	2·3	1·25	4·15	2·8	3·9	5·7	1·7	0·6	0·17	0·25	101·55

Table 10:—Sarai Khola, Trench A: Frequency of each pottery type by percentage

this type is generally well levigated except in the case of two examples for which clay tempered with small particles of stones was used.

A few examples of this type are distinguished by splayed-out and dented rims (Fig. 6, No. 6). One of the pots shows soot marks on the rim and it may be that vessels of this type were used for cooking.

Pottery Type II: Handmade Ware with Applique Surface (Fig. 7, No. 9-14; Fig. 8, No. 15-16 and Pl. XVIA, 6)

Pottery type II includes handmade vessels of red ware with thick fabric and internally carinated neck. No complete forms were found, but from numerous fragments it seems that vessels of this type were carinated near the base and had disc bases with basket impression (Fig. 8, No. 15 & 16). The ware is characterised by red burnishing on the inner surface of the rim and externally on the neck and shoulder of the vessel. The primary distinguishing feature of type II is an external surface covered below the shoulder by thick coat of mud mixed with small particles of stone or by fine-grained sand resembling the wares found at Amri and contemporary Amrian sites in southwestern Sind.[13] The internal surface of the vessels is rough and uneven and many examples show incisions made with brush or straw.

Pottery Type III: Burnished Vases with Everted Rim (Fig. 8, No. 17-24)

Vessels of this type are small, externally burnished, handmade, and of medium thickness. The burnishing shows varying shades of light-red to deep-red colour which stands out in contrast to the colour of fabric which is fired to a light-red or pale-red colour. Rims, short and out-turned, are burnished on the inner sides only. The internal surfaces for these small vases are uneven and in some cases show rough incised lines made with a straw brush. No complete vessels of this type were found but from the fragments, they appear to have been carinated near the base. The bottom of the bases probably bore basket impressions as in the case of type I and II described above.

Pottery Type IV: Red Burnished Bowls (Fig. 9, No. 25-29; Pl. XVA, 1-2, XVB, XVIA, 2)

The pottery type IV represents handmade bowls of red ware with flaring sides and burnished on both the external and internal surfaces (Pl. XVA, 1&2). Bases are generally flat and distinguished by basket impressions (Pl. XVB), whose outer edges

13. *Fouilles d'Amri.* (1964), No. 55. Examples of identical surface treatment and shape come from Period I and II at Jalilpur.

are indented with deep incisions. In some cases, however, only the edges are inented and the base is plain without basket impression (Pl. XVIA, 2). Very few bases are without indenting. Bowls of large and small size occur together showing bright-red surface because of burnishing. Rims are generally plain but in one case, a rim is grooved internally near the lip (Fig. 9, No. 28). The clay used in manufacturing the red burnished bowls of type IV is generally fine, although, in some case, it is coarser because of tempering material mixed in the clay. As in the case of type I, examples of this type IV continue in greatly reduced percentages into period II (Table 10).

Sub-Type IVA: Carinated Burnished Bowls (Fig. 9, No. 30)

This sub-type represents handmade bowls of red ware with nearly straight sides and with a carination near the base. The ware is burnished on the external surface only. The inner surface shows straw marks. Only one sherd of this type was found from the Southern Trench.

Bases of Burnished Vessels (Fig. 10, No. 31-36; Pl. XVIA, 1-2, 4-5)

A large number of vessel bases having basket impressions were found in the levels assigned to Period. I. They show sudden decrease in the percentage of their occurrence from the beginning of Period II (level 9), corresponding to the similar reduction of handmade and burnished wares of types I, II, III and IV (Table 10). Some bases, with portions of body of the vessels still intact, show burnishing on the external surface only. The interior of these vessels is not smooth and bears traces of straw marks, as in the case of vessels of types I, II and III. Some fragments having basket impressions on their bases and indenting on their edges are burnished on both sides as in the case of the bowls of pottery type IV. Moreover, the thickness of the bases varies like that of pottery types I to IV. The fabric of some examples is coarse while others are made of finely levigated clay. All these bases are handmade like the handmade wares of Period I. These characteristics of the numerous bases found in association with the four principal types of wares of Period I indicate that the bases were originally part of the pottery vessels grouped into types I to IV. The bases are, therefore, not counted although their frequency of occurrence does not differ from that of Sarai Khola pottery types I to IV. However, some selected bases are illustrated and described.

Pottery Type V: Plain Handmade Globular Vases (Fig. 11, No. 37-41; Pl. XVIA, 3; and XVIB)

In Period II, handmade wares are rare. These handmade wares have been grouped under two types: V and VI. Otherwise, all other wares of Period II are wheelmade.

In general form, although not in fabric or surface treatment, the vessels of type V resemble those of type I. Vessels of type V are handmade and are characterised by a dull or pale-red ware, by a gloublar body with a mostly out-curved rim, and by a disc base with basket impressions. The clay is tempered and firing is not usually uniform. Both internal and external surfaces sometimes show incised or scratch marks perhaps made with a straw brush when the clay was wet (Pl. XVIA, 3). In a few cases, the external surface of type V vessels show traces of red slip (Pl. XVIB). The vessels of type V occur exclusively in Period II (Tables 9 and 10).

Pottery Type VI: Handmade Cups (Fig. 11, No. 42-45)

Vessels of pottery type VI make their first appearance in the "transitional" Period IA. This type represents handmade cups of light-red ware with flat bases, gradually incurving sides and sharp rims. Sometimes, a thin line in black is painted on both the inner and outer surfaces of the rims of vessels of this type, while the remaining surface on both the sides is treated with wash. In a few cases, the clay is tempered with grit.

Pottery Type VII: Grooved Ware (Fig. 12, No. 46-52; Fig. 13, No. 53-66; Fig. 14, No. 67-71; Pl. XVIIA, 1-2; XVIIB, 1-8, 11 and 13)

Pottery type VII represents wheelmade vessels of varying sizes which are globular or elliptical in shape. Vessels of this type are made of fine clay and fired to different shades of red colour. The vessels grouped under this type have short and straight or slightly out-curved rims and flat bases. Their characteristic features include the treatment of the external surface and the painted designs. A series of thin incised lines are drawn horizontally, covering the external surface of the body from the shoulder to just above the base. With the exception of a few cases, the grooves are carefully drawn and are very regular, producing a corrugated profile. The grooving was done after the application of a secondary coat of fine clay as is clearly shown by a number of sherds on which the grooved surface has flaked off from the body. Generally however, the grooved or 'scored' exterior is produced so carefully that it seems an integral part of the body of the vessel. In addition, the firing is so uniform that the colour of the external grooved surface is not easily distinguishable from the colour of the body. The grooving was most probably done with sharp end of tool made of bone, wood, or pottery after the application of a slip of red, light-red or chocolate colour. In rare cases, however, buff slip was applied.

The characteristic painted designs on this grooved ware consist of simple bands around the neck and shoulder and immediately above the base, bordering on either side the grooved portion of the vessel. A single or double line in black is sometime

drawn over the gooved surface either just below the neck band (Fig. 12, No. 50) or on the central part of the vessel (Fig. 12, No. 47). The other painted designs on the grooved surface of the vessels of pottery type VII are either outlined by black bands (or rarely in chocolate colour), or are painted with white colour bordered by black. Designs include the *pipal* leaf (Fig. 12, No. 51), arrows (Fig. 14, No. 67, 68 & Pl. XVIIB, & 6 & 7), the sun (Fig. 13, No. 61 and Pl. XVIIB, 1), four-petalled flower in white bordered by black (Fig. 13, No. 65 and Pl. XVIIB, 3), crosses (Fig. 14, No. 70 & and Pl. XVIIB, 5), circular dots (Fig. 13, No. 63) and most significantly, horns either emerging from a tree (Fig. 12, No. 48 and Pl. XVIIB, 4) or indepedent of other motifs (Fig. 13, No. 62 and Pl. XVIIB, 13, shown up side down). These horns most probably belong to a human figure of which only the upper part is represented. It is pointed out that the large curved horns with representation of a human head and half a body resemble the 'horned deity' of the Kot Dijian culture found at Kot Diji[14], of Gumla Periods II and III[15], and at Hathala[16].

Type VII grooved pottery starts in the "transitional" level (10) and persists throughout Period II, where along with types IX and X, it was a most popular ware (Tables 9 and 10). The other varieties of this type are separately grouped under sub-types VII A & B which survive only up to the middle levels of Period II.

Sub-Type VIIA (Fig. 14, No. 72-77; Pl. XVIIB, 9-10)

In fabric, shape, decorative designs, and surface treatment, the vessels of sub-type VIIA are identical to those of the main type VII. But instead of straight-drawn horizontal grooves, vessels of this sub-type have wavy grooved lines running horizontally. In some cases, the wavy lines are very thin and are drawn very close to each other. The slip on vessels of VIIA varies from red to chocolate in colour. Besides the characteristic short vertical rim, some examples show a very short, everted rim. It should be stressed that the vessels of this syub-type VIIA bear white painted band on their shoulders. Other painting includes a band on the neck in black or chocolate colour. Vessels of sub-type VIIA occur only in the early and middle levels of Period II and do not occur in the upper levels, while vessels of the main type VII continue throughout Period II (Tables 9 and 10).

14. F.A. Khan, 'Excavations at Kot Diji', *Pakistan Archaeology* No. 2 (1965), Fig. 116, 1.
15. A.H. Dani, 'Excavations in the Gomal Valley', *Ancient Pakistan*, No. 5 (1970-71). Inside title cover.
16. *Ibid.*, Pl. 65, No. 7.

Sub-Type VIIB (Fig. 14, No. 78-81; Pl. XVIIB, 12)

This sub-type represents combinations of horizontally drawn straight and wavy grooved lines on the external surfaces of vessels. In respect of fabric, shape, colour and painting, however, vessels of this sub-type are identical to the main type VII and to sub-type VIIA. The wavy incised lines of this sub-type occur on the upper part of the vessels; below the wavy lines are horizontal straight grooves which are made just like those on the exterior of vessels of the main type VII. Two examples of this sub-type are reminiscent of "Reserve slip" ware of Anjira IV[17], and of sherds known from the early levels of Moenjodaro[18], and from the surface of Periano Ghundai[19]. Sub-type VIIB like VIIA, is mostly confined to the early levels of Period II (Tables 9 and 10).

Pottery Type VIII: Flanged Vessels (Fig.15, No. 82-84)

This type represents globular vessels of red ware some of which are large enough to have served as storage jars. Vessels of this type have sharp vertical neck, flat rims and a prominent ridge or flange below the neck. This flange was probably intended to receive a lid (see type XIII), and is perforated vertically. The flange was applied separately on the body after the pot was made. This fact is evident from broken pieces which show incised marks on the body of the vessel below the ridge (Fig. 15, No. 84). The shape of vessels of this type, but without flange, resembles that of the characteristic Kot Dijian wares of our type IX. Vessels of the main type VIII, although plain, are treated on the external surface with buff slip or light-red wash. It is only around the neck and in few cases, on the flange itself that a black band is painted. Flanged vessels with painted designs are otherwise grouped separately under VIIIA[20].

Sub-Type VIIIA: Painted Flanged Vessels (Fig. 15, No. 85-89; Fig. 16; Pl. XXA, 1-2, 7)

This sub-type is distinguished from its main type VIII by the presence of decorative designs painted on the shoulder below the flange. The painting is done mostly in black on a buff slip. Designs include groups of horizontal lines between which

17. De Cardi, in *Pakistan Archaeology*, No. 2, Fig. 23, No. 17 and Pl. IX, 4.

18. E.J.H. Mackay, *Further Excavations at Mohenjo-daro.* 2 Vols. (Delhi, 1938), Pl. XXXVIII, 26.

19. Sir Aurel Stein, in *Memoris of the Archaeological Survey of India*, No. 37 (Calcutta, 1929), Pl. VI, P.S.W. 69-71 and 73; Pl. VIII, P.S.W. 37 and P.W.S. C.15; cf. W.A. Fairservis, *Archaeological Surveys in the Zhob and Loralai Districts, West Pakistan.* (New York, 1959), Fig. 52, c-f.

20. The flanged vessels occur in association with the short-necked Kot Dijian wares at Jalilpur (M.R. Mughal, in this Journal; and *Archaeology* (New York, in press); at Kot Diji, (*Pakistan Archaeology*, No.2, Fig. 19, No. 6, Fig. 15, No. 6 and many other examples); at Gulma Periods II, III and IV (*Ancient Pakistan*, No. 5, Fig. 16, No. 93; Fig. 19, Nos. 149-156 and 106; Pl. 85, Nos. 1-9, 11-15; and Pl. 86, Nos. 1-6 and 9); in the pre-defence levels of Harappa (*Ancient India*, No. 3, Fig. 9, No. 16); at the Amri-related sites of Pai-jo-Kotrio and Rajo-daro (*Ancient India*, No. 5, Fig. 2, 1 and Fig. 5, 11); and at several sites in the Zhob and Loralai Valleys recorded during the survey of 1972 by the author.

scrolls and concentric circular designs are painted (Fig. 16, No. 90). Other designs are the cross (Pl. XXIB, 1), T-shaped designs (Pl. XXIA, 9), cross hatched rectangles (Pl. XXIA, 4), and geometric and linear motifs (Pl. XXIA, 11), crossed circles connected with lines below (Pl. XXIB, 4), groups of diagonal wavy lines (Pl. XXA, 1), and fish-scale designs with dots (Pl. XX, 7). This sub-type also includes vessels painted with two colours, black and red, on a buff slip (Pl. XXA, 2 and Fig. 15, No. 89). Designs on bichrome vessels consist mainly of crossed "dumbles" or double axe (Fig. 15, No. 89; Pl. XXIA, 10 and Pl. XXIB, 12)[21].

Pottery Type IX: Short-Necked Kot Dijian Ware (Fig. 17, No. 91-100; Pl. XVIIIA, 1-2)

The main type IX is characterised by spherical vessels having bulbous bodies, fired to a red colour and provided generally with flat but occasionally with disc bases. One example, however, is carinated near the base (Fig. 17, No. 98). Most of these are of fine fabric without any tempering material in the clay. Necks are short and vertical. A black band painted around the neck and another near the base is a very common feature. In some examples, groups of multiple black lines are painted on the shoulder (Fig. 17, No. 97). The external surface of the vessel is treated with a red or dark-red slip. The main type IX, and sub-types IXA, IXB and IXC, as discussed below, constitute a group which is identical to the characteristic short-necked Kot Dijian wares known from the type site of Kot Diji in Sind[22]. Short-necked vessels of both small and large size occur at Sarai Khola. These Kot Dijian type of wares at Sarai Khola belong primarily to Period II, although the main type and two sub-types (IXC and IXD) make their first appearance in the "transitional" Period IA in very limited numbers (Tables 9 & 10).

Sub-Type IXA (Fig. 18, No. 101-108; Pl. XIXA)

The pottery grouped under sub-type IXA differes from the main type IX in the surface treatment only; otherwise in form, fabric, and in basic decorative technique, IXA is identical to the main type IX. The vessels of IXA were probably used as storage jars (Pl. XVIIIB and XIXA). A wide band in light-red, chocolate or brown is painted on the shoulder of the vessel. This band is bordered on top by a thinner black band (i.e., around the neck of the vessel) and with single or double black lines below. The remaining portion of the exterior surface is either buff slipped or shows a very thin coat of sandy mud applied on the surface. In some examples of this sub-

21. Cf. Gumla III-IV, *Ancient Pakistan*, No. 5; Pl. 81, 1, Pl. 85, 5.
22. See footnote 10, above.

type, a wide band of white or buff is painted on the shoulder of the vessel and is bordered by a black line below. The lower part of such vessels are red slipped. A few signs of graffiti (pre-firing) occur on the shoulder of these vessels (Fig. 18, Nos. 101 and 106).

Sub-Type IXB (Fig. 19, No. 109-120)

In the sub-type IXB are grouped undecorated vessels which are otherwise identical in form to the main type IX and its sub-type IXA. Like the main type, this group, too, is characterised by red wares. However, there are some pieces which were probably under-fired and therefore, light-grey in colour. Potter's marks also occur on sherds belonging to this sub-type. In same instance, the external surface is treated either with a red slip or simply with a wash; most examples, however are without any surface treatment. Sub-type IXB, like IXA, is confined to Period II (Tables 9 and 10).

Sub-Type IXC (Fig. 20, No. 121-126; Pl. XIXB)

The wares grouped under sub-type IXC are characteriesed by a dark-brown slip applied on the external surface of the vessel. These vessels have a short neck and globular form exactly like that characteristic of the Kot Dijian pottery (Pl. XIXB). The colour of the fabric is red; a dark-brown slip covers the body externally and terminates just above the base. In some cases, the slip is of grey colour, in sharp contrast to the light-red colour of the body of the inner surface. In rare examples, a black band was also painted around the neck over dark-grey slip in such a way that the colours of the slip and of the painted band are not easily distinguishable. One other piece of grey colour was sand-slipped on the external surface. Such sand slipp-ing recalls the technique of surface treatment of sub-type IXA described above. Appearing first in the "transitional" level (Period IA), vessels of sub-type IXC persist throughout Period II (Table 9). There is no marked difference between the fre-quency of IXC wares in the early and late levels of Period II (Tables 9 and 10).

Sub-Type IXD (Fig. 21, No. 127-132)

This sub-type represents a small number of vessels which make their appearance in the "transitional" Period IA and continue only up to the middle levels of Period II (Table 9). Vessels are small, spherical in shape, with flat bases and sharp rims. Bodies are red and treated externally with wash or red slip. Generally, the surface is undecorated, although on few examples, a black line is painted on the rim. Two examples manifest uneven external surfaces (Fig. 21, No. 127 and 130) Another specimen has rough external surface suggesting the application of mud to it. (Fig. 21, No. 129).

Sub-Type IXE (Fig. 22, No. 133-140; Pl. XXA 3-6, 8-9)

In the sub-type IXE are included decorated examples which are otherwise indentical to the short-necked Kot Dijian sub-types found at Sarai Khola and grouped under type IX and its variants. On the wares of sub-type IXE, painting is done with black and chocolate colours on a buff or red slip. The designs painted on buff slip include, hatched rectangles arranged vertically and separated by zigzag lines (Pl. XXA, 9), spirals separated by Z—designs (Pl. XXA, 3), loops with dots (Pl. XXA, 8), wavy lines bordered by multiple horizontal lines, and hanging wavy lines (Fig. 22, 136). A few examples are painted with black on a red slip. Designs included plant motifs (Pl. XXA, 4) and circular designs. Graffiti marks also occur on this sub-type (Pl. XXA, 6 and Fig. 22, No. 134 and 140).[23] The painted vessels of sub-type IXE persisted throughout Period II at Sarai Khola, a feature which coincided with the popularity of the painted flanged vessels of type VIIIA (Tables 9 and 10).

Pottery Type X: Bowls with Convex Sides and Sharp Rim (Fig. 23, No. 141-152; Pl. XXB, 1-4; XXC, 1)

This type is characterised by bowls of red ware with flat bases, convex profiles and sharp rims. Vessels are made of fine clay and painted near the rim on both sides with black colour. Varieties of both thick and thin walled bowls occur and the colour of the body varies from red to pale-red. With regard to surface treatment, most of the bowls are slipped on the inner surface with a red or dark-red colour. A few examples have a light-pinkish colour slip. Vessels with buff slip also occur. Buff slip is generally restricted to the inner sides of the vessels but may occur on the external surface as well. The painted designs on buff slip are done in brown, chocolate, or black colour. The painted decoration on red and buff slipped bowls is generally identical in nature. A series of parallel lines are painted in black horizontally on the inner side of the bowls just below the rim (Pl. XXB, 1-4). On the other side of the rim, a wide band in black or occasionally in chocolate colour is painted (Pl. XXC, 1). Another notable feature of the bowls grouped under type X are the painted designs at the bottom. The designs consist of single or double circle which are sometimes bordered with loops (Pl. XXB, 4). Compartmented circular designs are also found but on buff slipped bowls only (Pl. XXB, 2). Bird (Pl. XXB, 3) and circular motifs (Pl. XXB, 1) occur on the inner sides of both buff and red slipped bowls. On bowls of large size, a single band (instead of the more typical multiple parallel lines) is painted on both the inner and outer sides of the rim.

23. It should be noted that the short-necked vessels of the characteristic Kot Dijian wares found at Kot Diji are painted only with bands in black. At Sarai Khola, however, in addition to a simple band, elaborate designs in black, chocolate and dark-brown are painted on a red or buff slip. The same is the case at Gumla in Periods II and III.

Bowls of type X appear first in the "transitional" Period IA and reach their greatest frequency in the early levels of Period II (Table 9 and 10). Although continuing to represent the largest proportion of the assemblege, they decrease in frequency in the last levels of Period II.

Pottery Type XI: Carinated Bowls (Fig. 24, No. 153-162; Pl. XXB, 5-11, 13)

This type represents disc-based bowls of red ware, carinated above the base. The sides of these bowls taper inward slightly and terminate in a sharp rim. They are generally treated with a red slip on both sides, although in some cases, slip occurs only on the outer surface. There are a few examples which are buff slipped or treated on the outer surface with a wash. This variety of buff slipped bowls is generally painted with black decoration, consisting of a simple band applied on both the inner and outer sides of the rim. Red slipped bowls, however, are painted in black with single or double lines running horizontally on the external surface and occupied with wavy lines and loops. On the same buff slipped bowls, zones of geometric motifs are painted in black and separated by groups of varitcal lines. Other motifs include vertically drawn white lines bordered by black ones.[24]

Sub-Type XIA (Fig. 24, No. 163-165; Pl. XXB, 12; XXC, 2)

This sub-type represents thick textured bowls of large size with concave sides, ring bases, and flattened or rounded rims. Such vessels are carinated near the base (like the main type XI) and fired to red or light-red colour. They are red slipped on both the external and inner surfaces. Black bands are painted on the rim and on carination above the base. Decorated examples of this sub-type are few when compared to the main type XI. There are only three examples which show parallel horizontal lines in black on red slip or groups of wavy lines bordering cross-hatched leaf designs in black on a buff ground.

Pottery Type XII: Pans or Dishes with Flat Bases and Flaring Sides (Fig. 25, No. 166-170)

This distinctively shaped type includes flat bottomed pans or dishes with flared-out profile and rounded or flattened rims. Red or pale-red paste is generally treated on both sides with wash. A few examples of this type, however, are red slipped internally or on both sides. Decoration consists of a black band painted on both

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24. This white slip is comparable with the painted sherds found at Periano Ghundai and Sur Jangal in northern Baluchistan ,and also at Gumla.

sides and on top of the rim. Two examples are incised with rope or string designs below the rim (Fig. 25, Nos. 167 and 170). This type makes its first appearance in the "transitional" Period IA and persists throughout Period II (Tables 9 and 10).

Pottery Type XIII. Plain Knobbed Lids (Fig. 26, No. 171-174)

This type is characterised by knobbed lids with sides turning downward at right angles to the top. The ware is pale-red and is treated on both sides with wash or merely with buff slip. Some examples are red slipped on the external surface. These lids were most probably intended to cover flanged vessels of types VIII and VIIIA described above. There is no stratigraphic difference in the occurrence of flanged vessels and lids (Table 9 and 10)[25].

Sub-Type XIIIA: Painted Knobbed Lids (Fig. 26, No. 175-178)

This sub-type differs from that of the main type in having a distinctive red slip and painted black lines on the outer surface. The knob in the middle of such lids is painted black. Potter's marks also occurs on such lids (Fig. 26, 175). There is only one example from Sarai Khola of a lid without a knob (Fig. 26, No. 176).

Pottery Type XIV: "Offering Stands" (Fig. 27, No. 179-182)

There are two varieties of "offering stands" (dish or bowl joined to a stand): 'A', tall stands with cyclindrical stem and wide hollowed base, and 'B', low, squat stands. Both the varieties occur together, making their appearance in layer (9) and continuing throughout Period II (Tables 9 and 10). The low squat stands are fewer in number, occurring only half as frequently as the tall variety.

The "offering stands" are made of red, pale-red, or light-red fabric, which sometimes is unevenly fired. Stands are generally undecorated, although pedestal bases of the tall variety 'A' are sometimes painted on the outer edge below the stem with black lines on a distinctive red slip. The surface below the dish on squat stands also bears a prominent ridge (Fig. 27, No. 182).

Sub-Type XIVA (Fig. 27, No. 183-187)

The dishes and bowls of the tall and squat offering stands have been grouped into sub-type XIVA. The upper parts of squat offering stands are wide and deep dishes or bowls with red slip on the inner surface (Fig. 27, No. 179). The dishes of the tall

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25. Both the types VIII and VIIIA occur togather on the sites contemporary with Sarai Khola II, namely Kot Diji, Gumla and Jalilpur.

variety 'A' are shallow and flat with out-flaring rims. In most cases, the latter are red slipped on the inner side and on the external surface of the rim. Black lines or bands were sometimes painted externally on the red slip. It should be noted that incised designs in the middle of the dishes, a feature found on other sites, do not occur at Sarai Khola in any level. Instead, painted designs consisting of concentric circles and wavy lines occassionally occur in the middle of the dish.

Pottery Type XV: Plates or Dishes (Fig. 28, No. 188, 189)

Only a few examples of plates and bowls were found. These are mostly plain and unslipped and the thickness of the ware varies. They occur mostly in the late levels of Period II (Tables 9 and 10). They are fired to a pale-red or light-red colour and are treated with a simple wash. A few examples also occur which bear a black band on the rim. (Fig. 28, No. 188).

Pottery Type XVI: Narrow-Mouthed Vessels (Fig. 28, No. 190-192)

Very few examples of this type were found. They occur only in the early levels of Period II (Tables 9 and 10). Vessels of this type have a very narrow mouth and spherical body. The outer surface in all cases is treated with a bright-red slip which covers a body fired to a light-red or pale-red colour.

Pottery Type XVII: Ridged or Cordoned Ware (Fig. 28, No. 193-195)

This type represents large vessels of light-red ware, fine clay, and medium thickness. Complete vessels of this type were not found. Single or double ridges, probably occurring in the middle part of the body of vessels, run horizontally on the external surface. Sherds of this type occur in negligible quantities in the middle levels of Period II (Tables 9 and 10). The outer surface is red or buff slipped and wide black lines running parallel to each other occur on the body and on the ridge.

Miscellaneous Pottery (Fig. 28, No. 196-204)

Among the pottery assemblage of Sarai Khola, the "transitional" Period IA and the subsequent Period II, contained quite a number of potsherds which because of their form and surface treatment, could not be placed in the types classified above. These types are described separately.

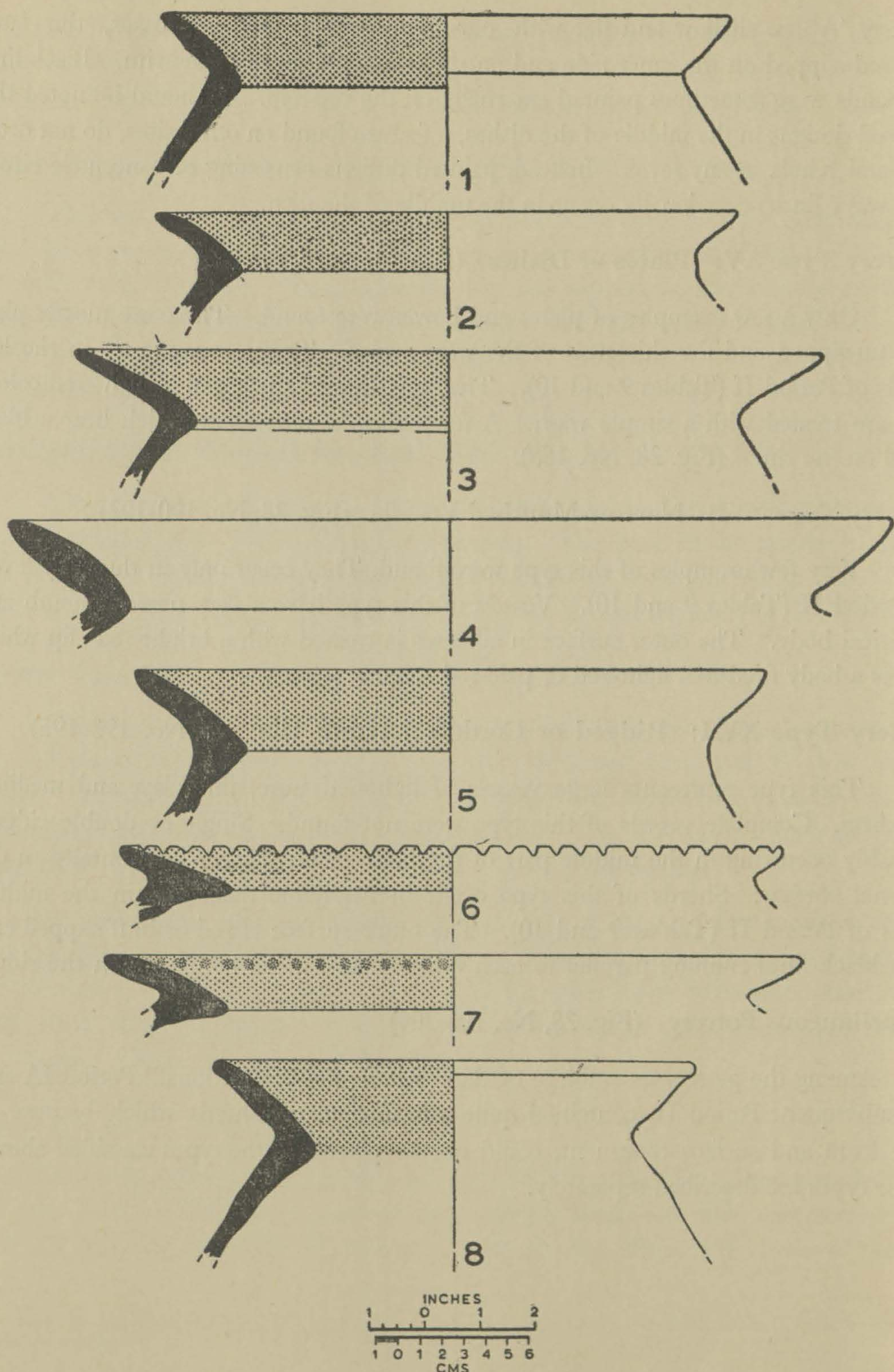


Fig. 6: Sarai Khola. Burnished vessels, type I

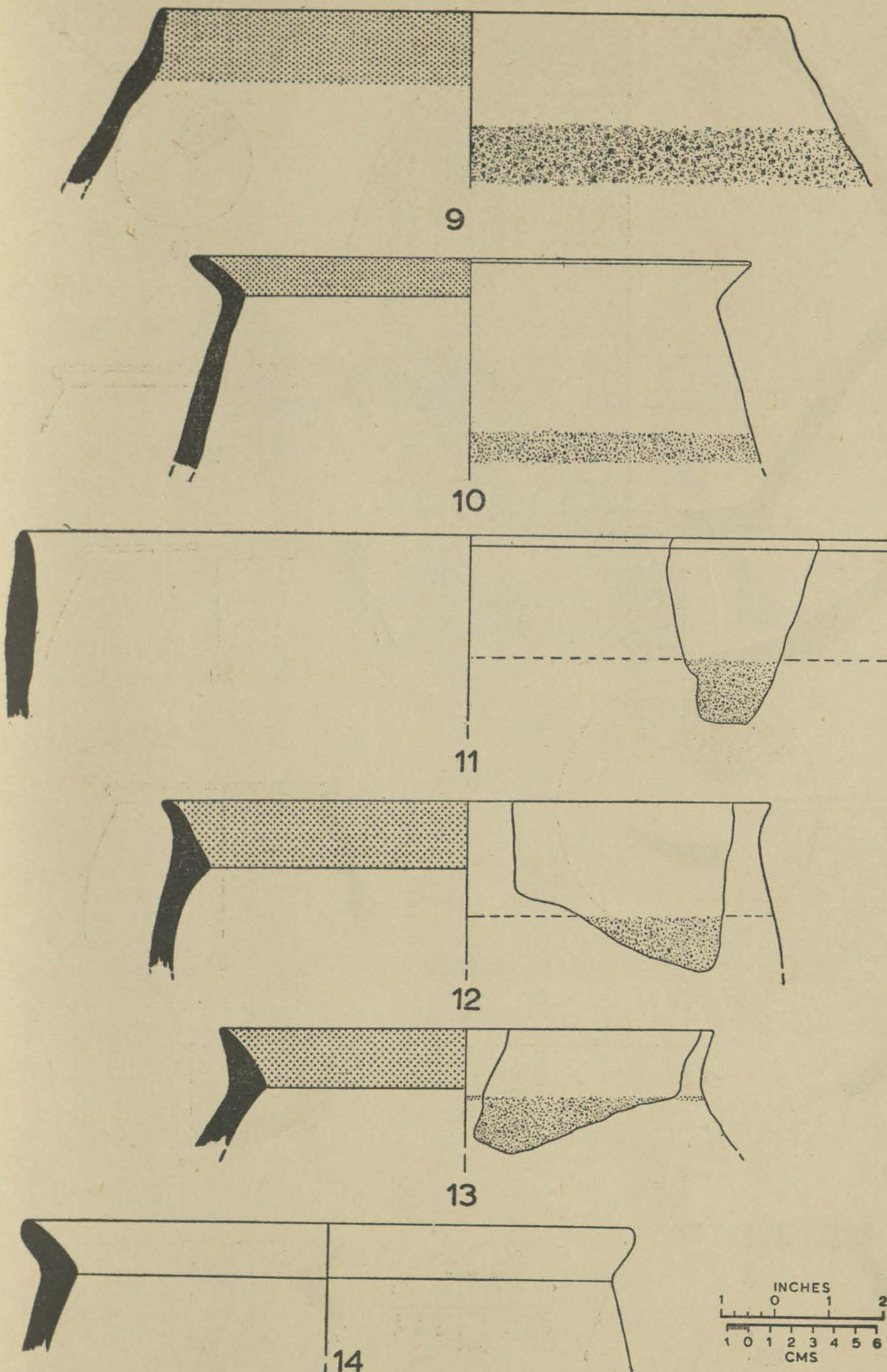


Fig. 7: Sarai Khola. Handmade ware with applique surface, type II

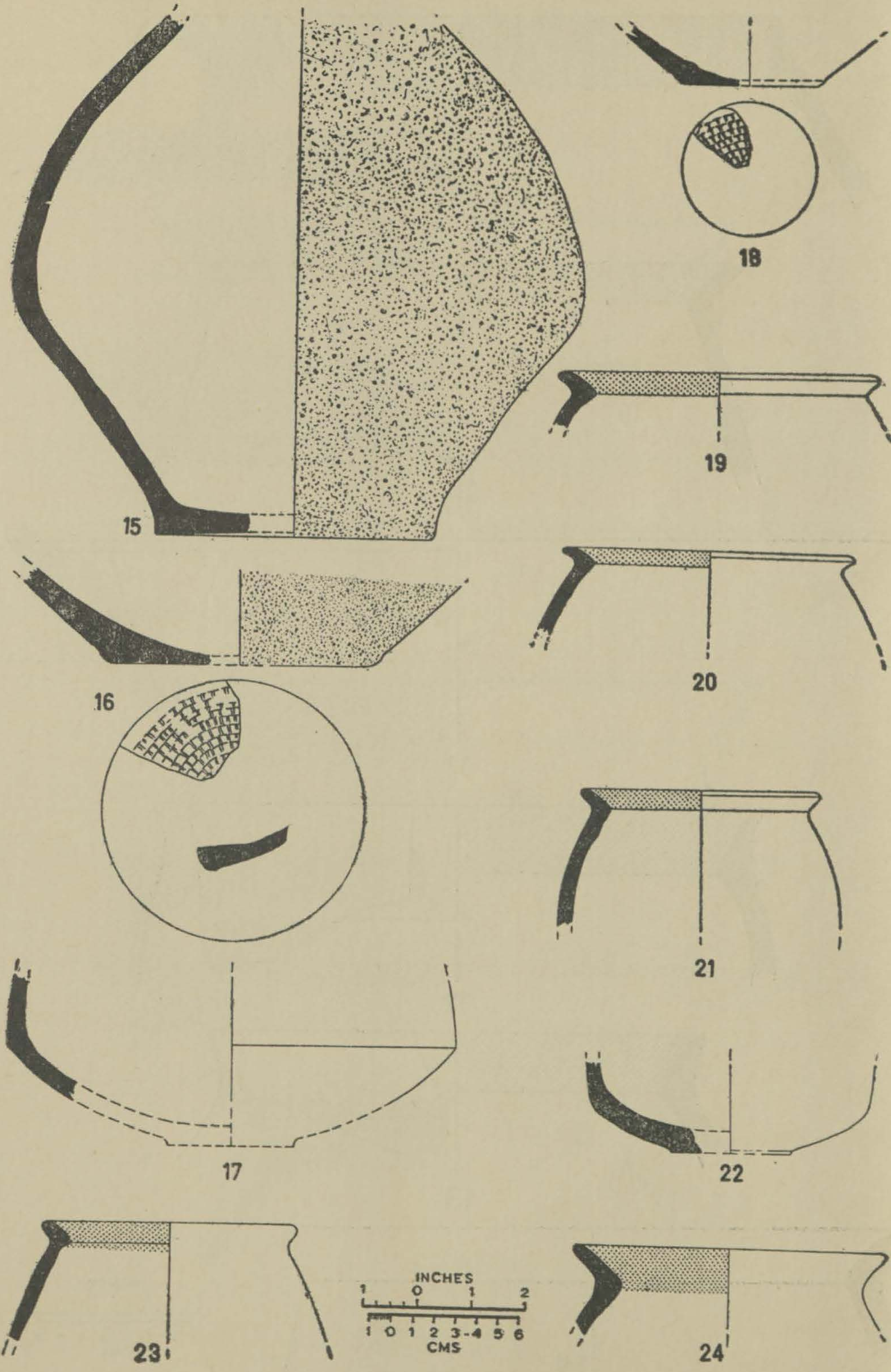


Fig. 8: Sarai Khola. Handmade ware with applique surface, type II (15-16), and burnished vases with everted rim, type III (16-24)

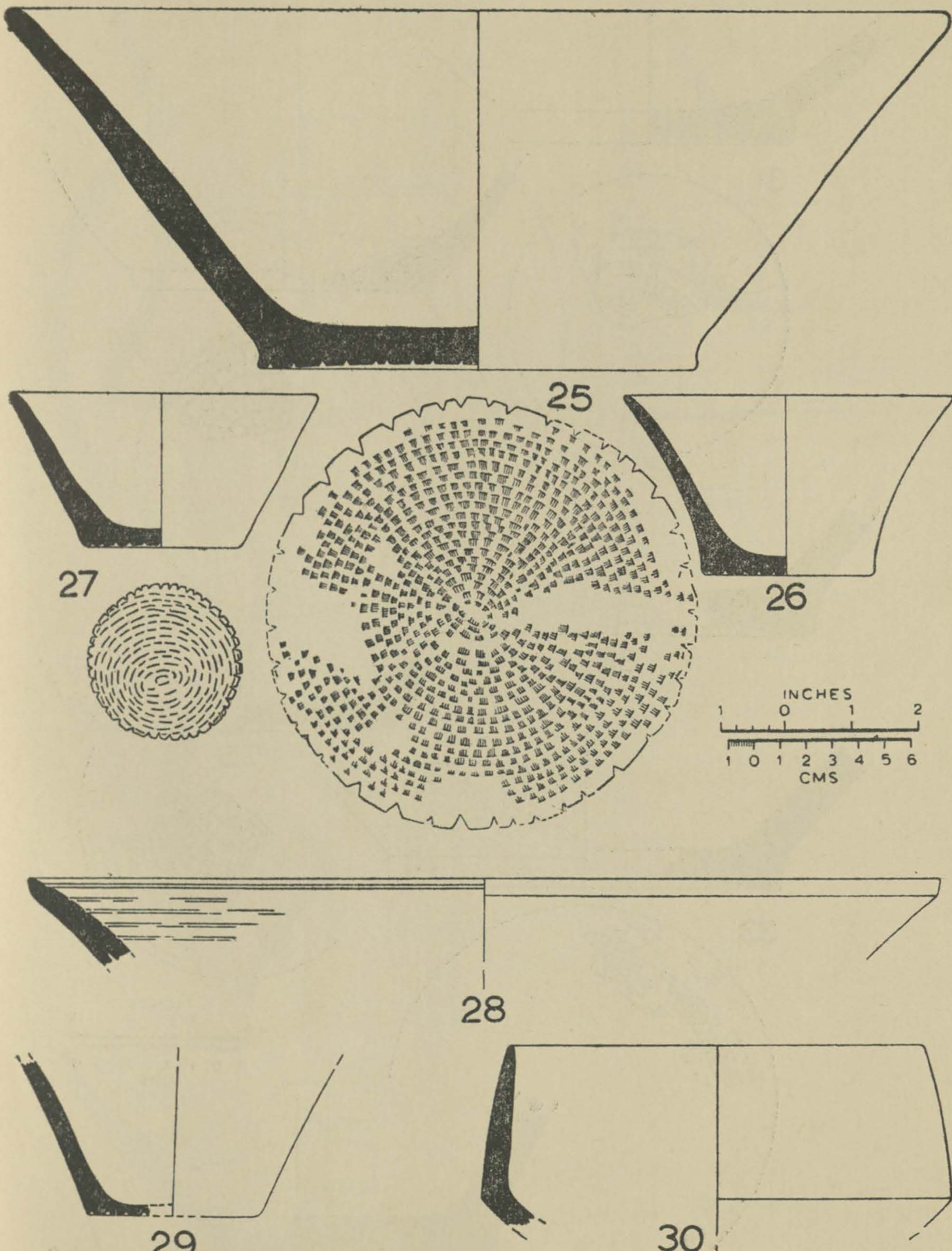


Fig. 9: Sarai Khola. Handmade burnished bowls of type IV (25-29) and of IVA (30)

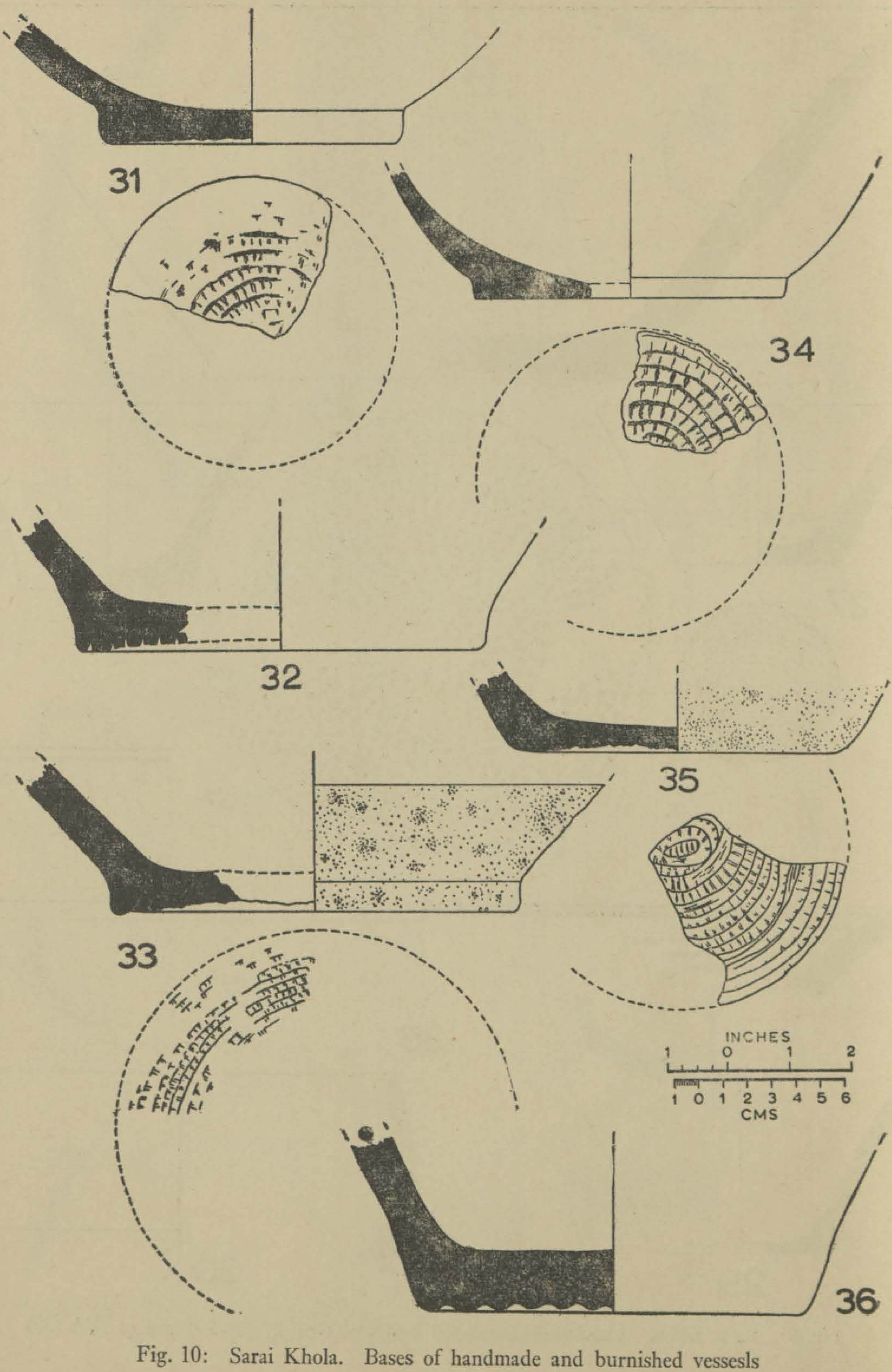


Fig. 10: Sarai Khola. Bases of handmade and burnished vessesls

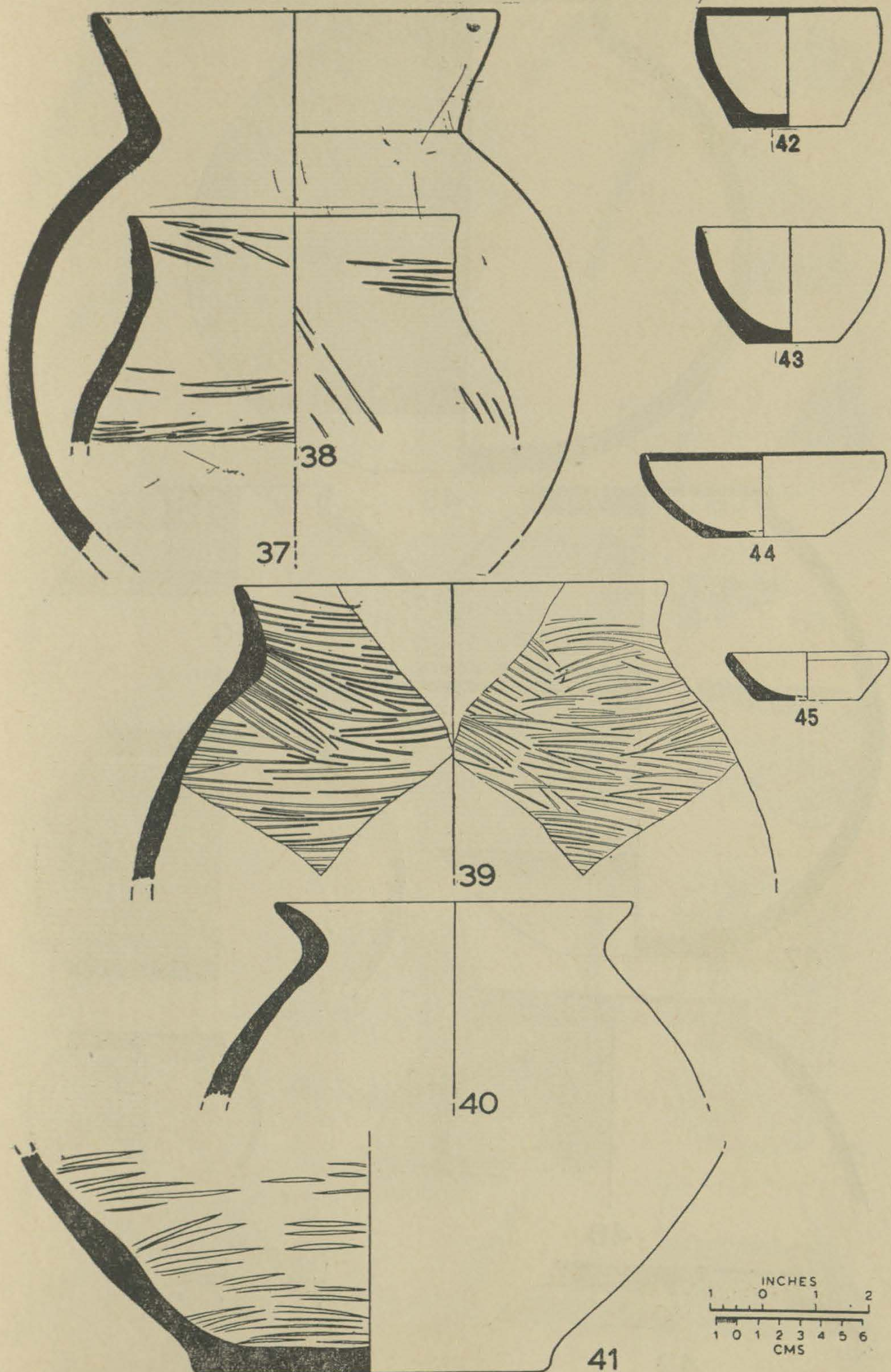


Fig. 11: Sarai Khola. Plain handmade globular vases, type V (37-41); and handmade cups type VI (42-45)

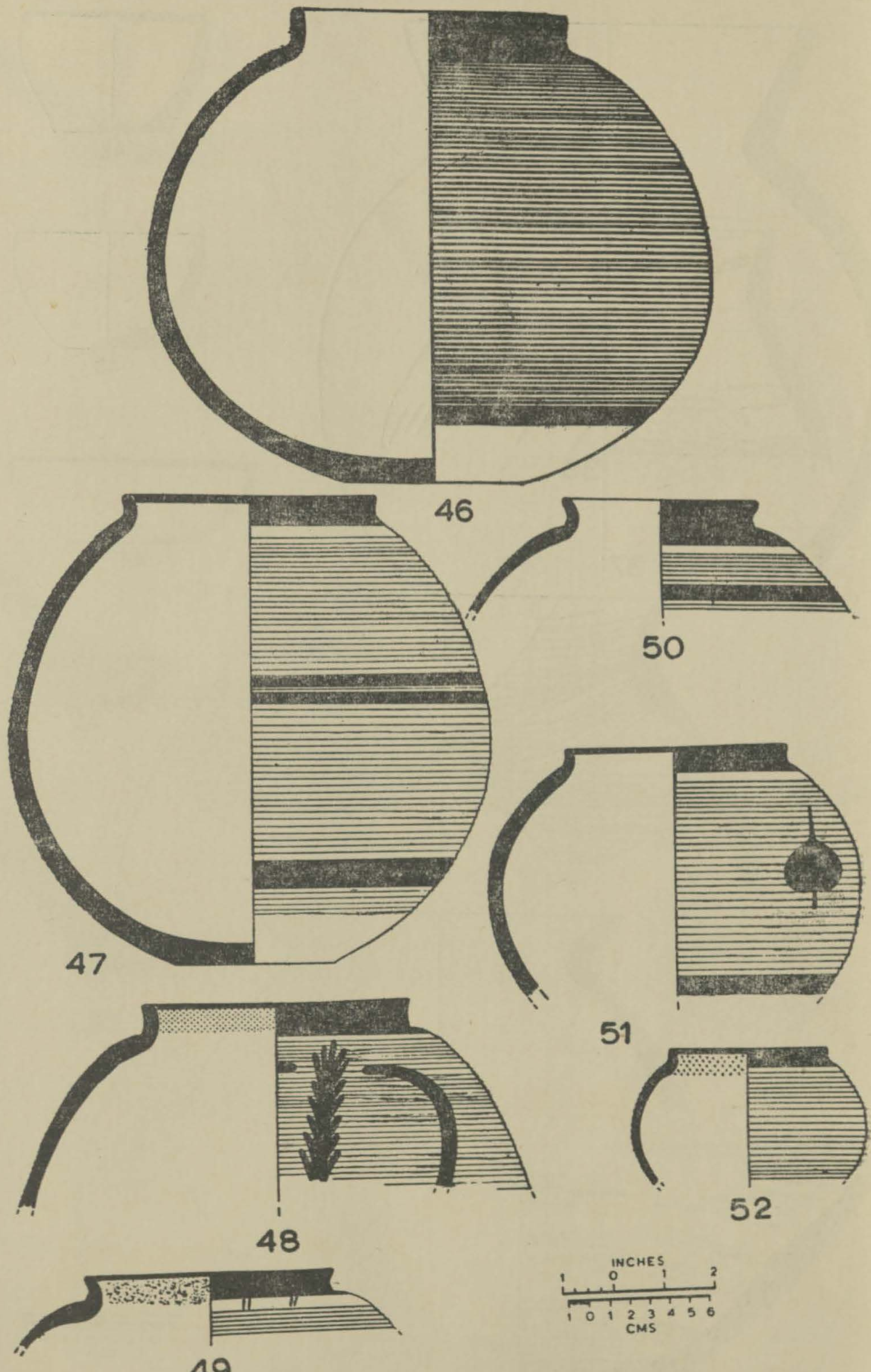


Fig. 12: Sarai Khola. Grooved ware, type VII (46-52)

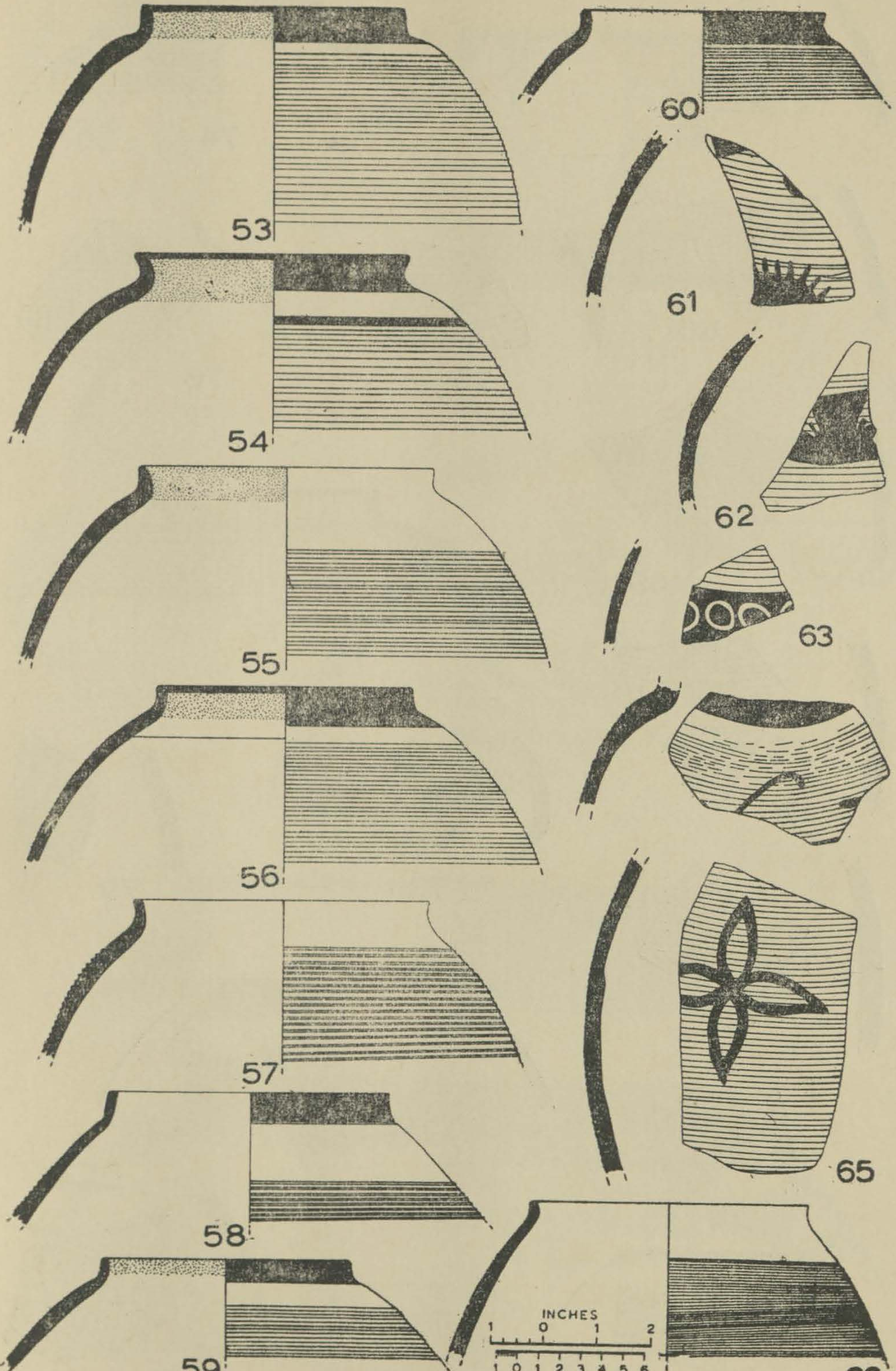


Fig. 13: Sarai Khola. Grooved ware, type VII (53-66)

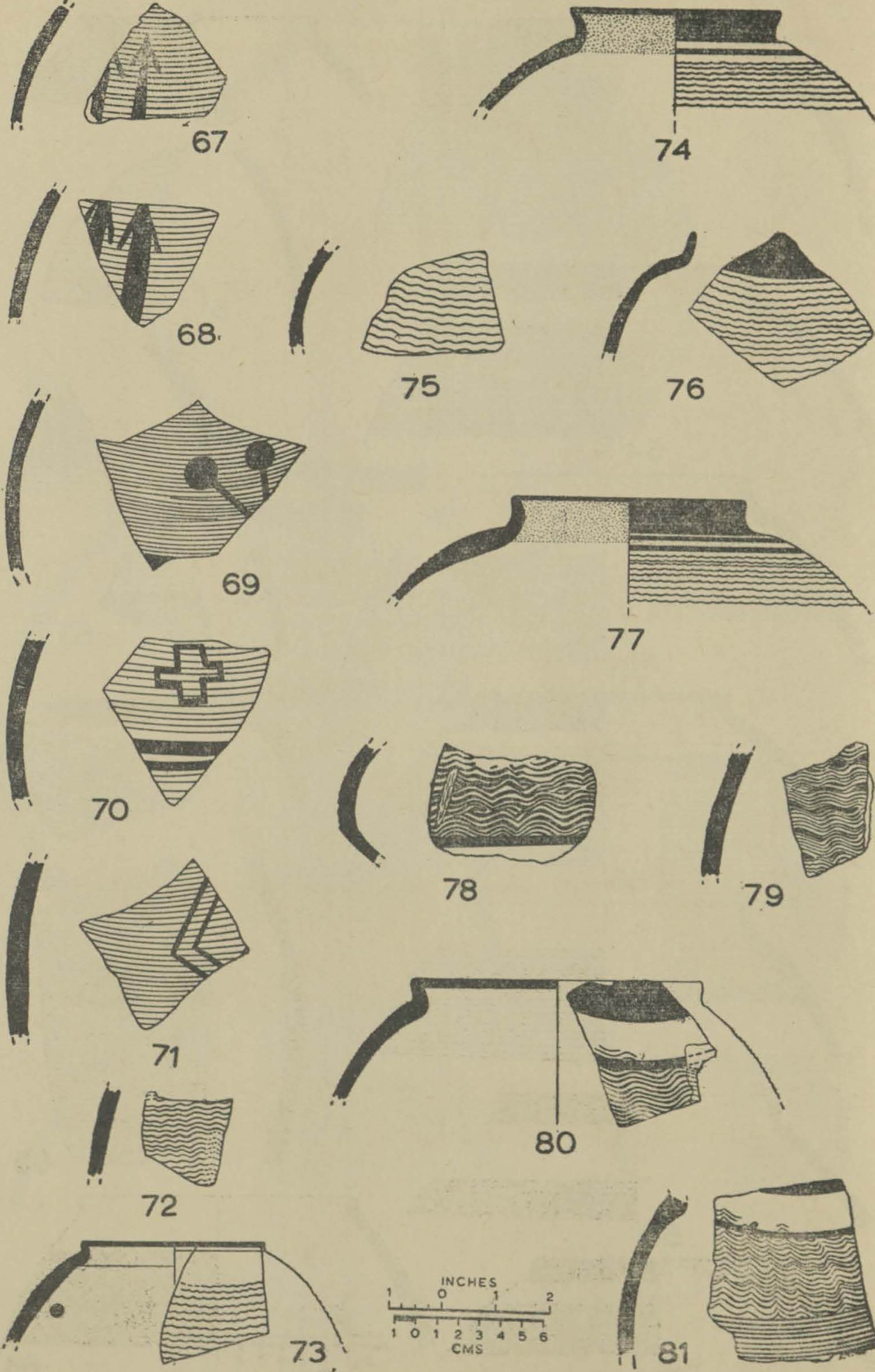


Fig. 14: Sarai Khola. Grooved ware, type VII (67-71), sub-type VIIA (72-77), and sub-type VIIB (78-81)

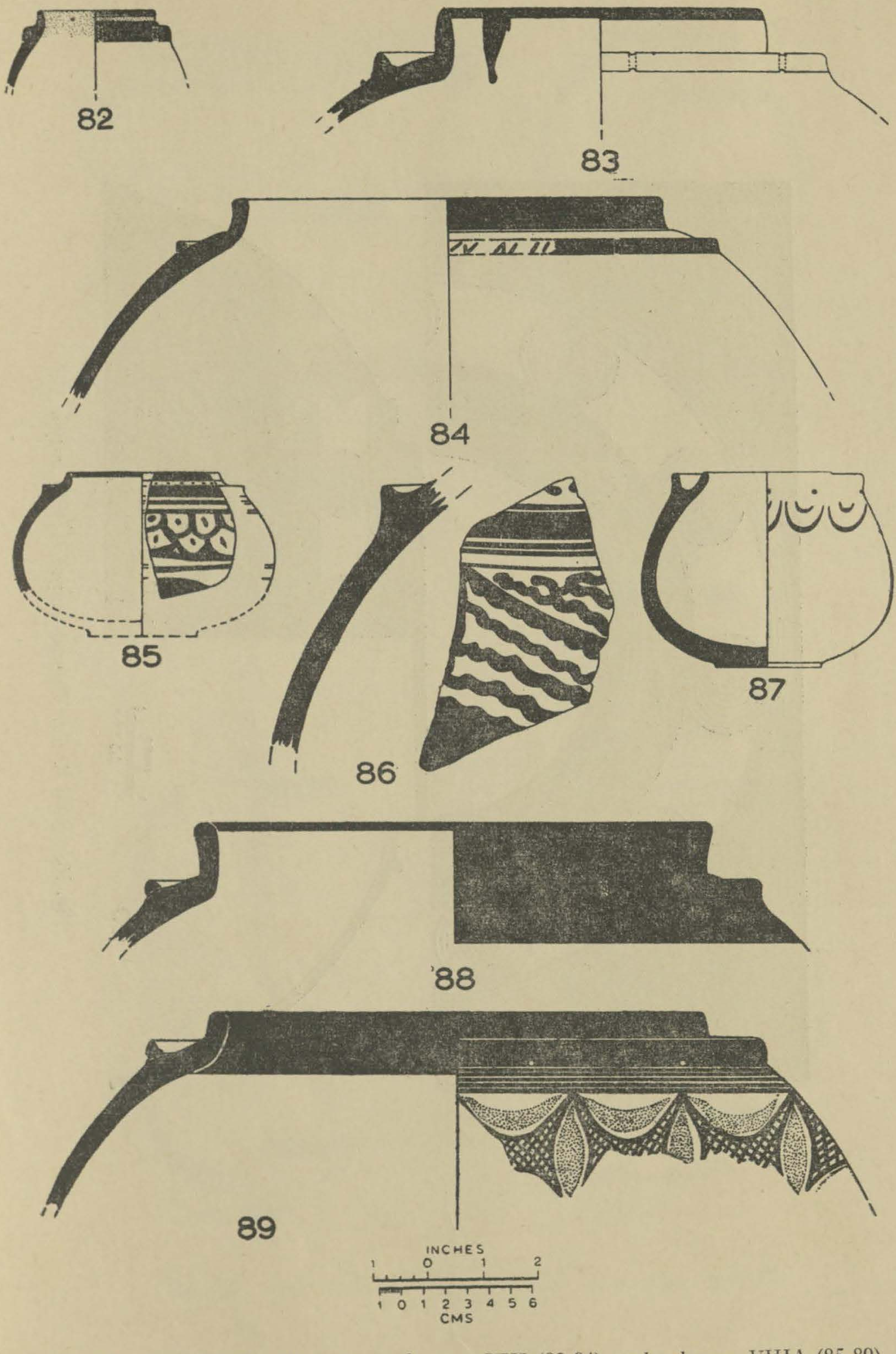


Fig. 15: Sarai Khola. Flanged vessels, type VIII (82-84), and sub-type VIIIA (85-89)

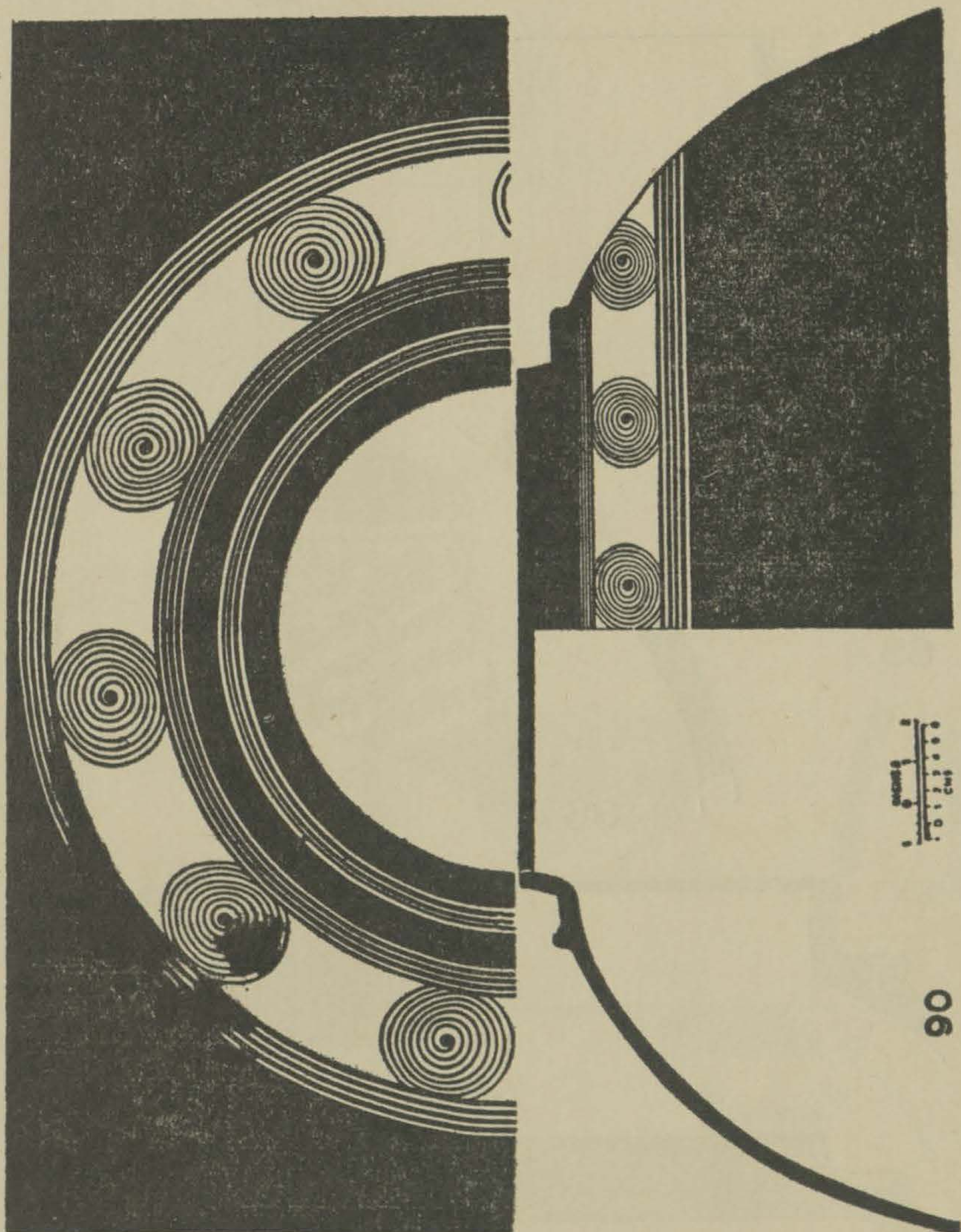


Fig. 16: Sarai Khola. Painted flanged vessel, sub-type VIIIA

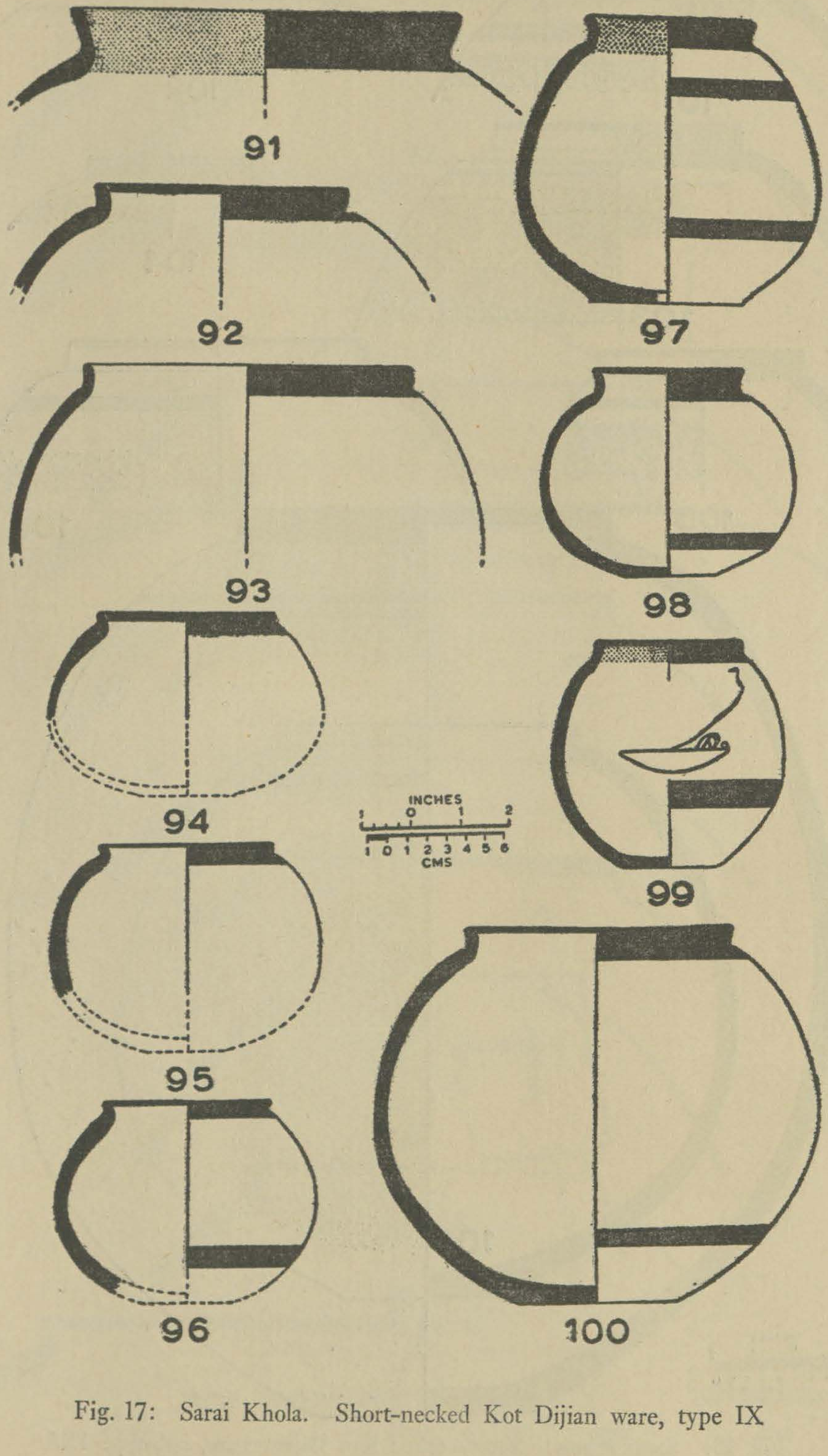


Fig. 17: Sarai Khola. Short-necked Kot Dijian ware, type IX

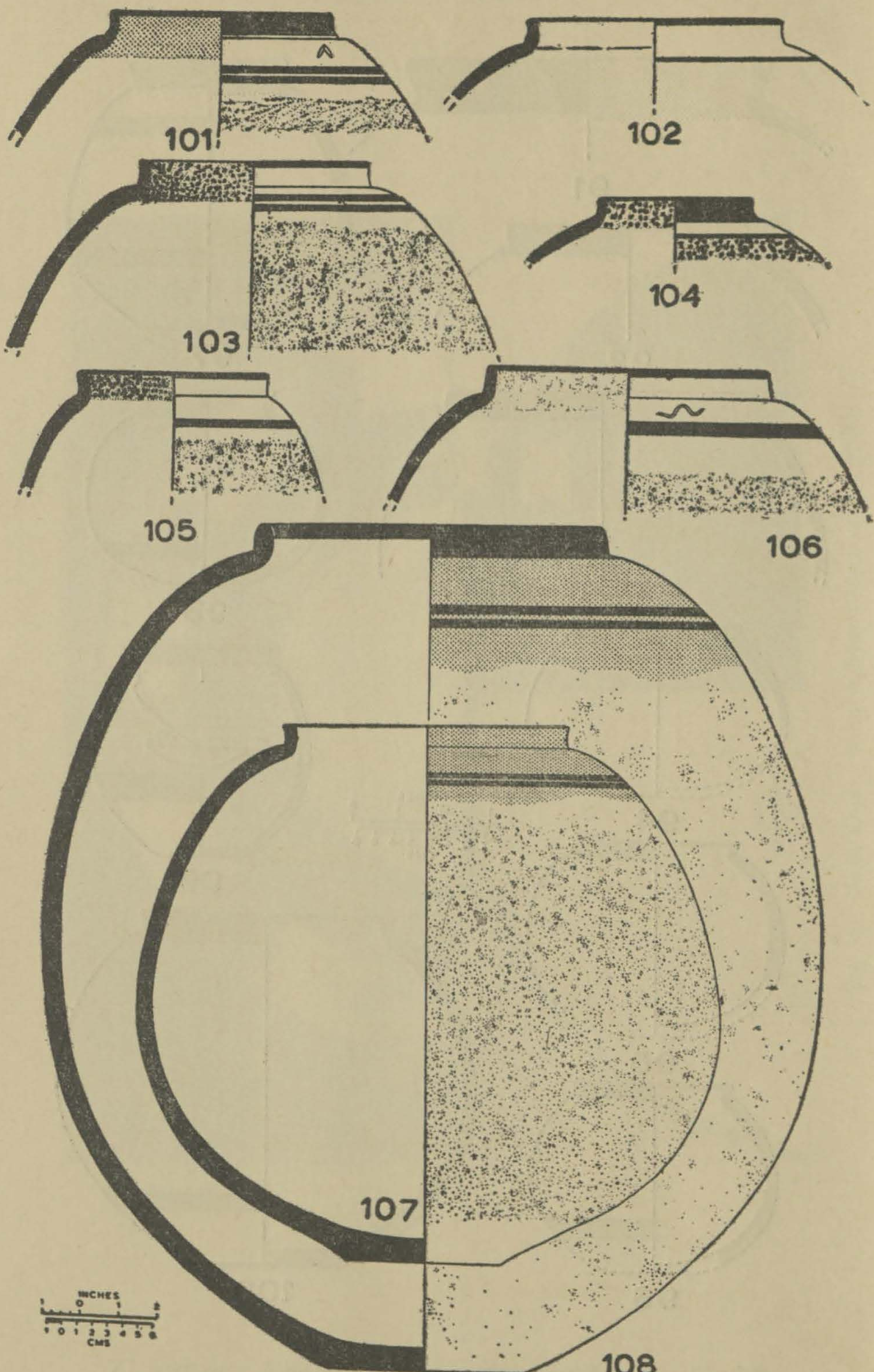


Fig. 18: Sarai Khola. Short-necked Kot Dijian ware, sub-type IXA

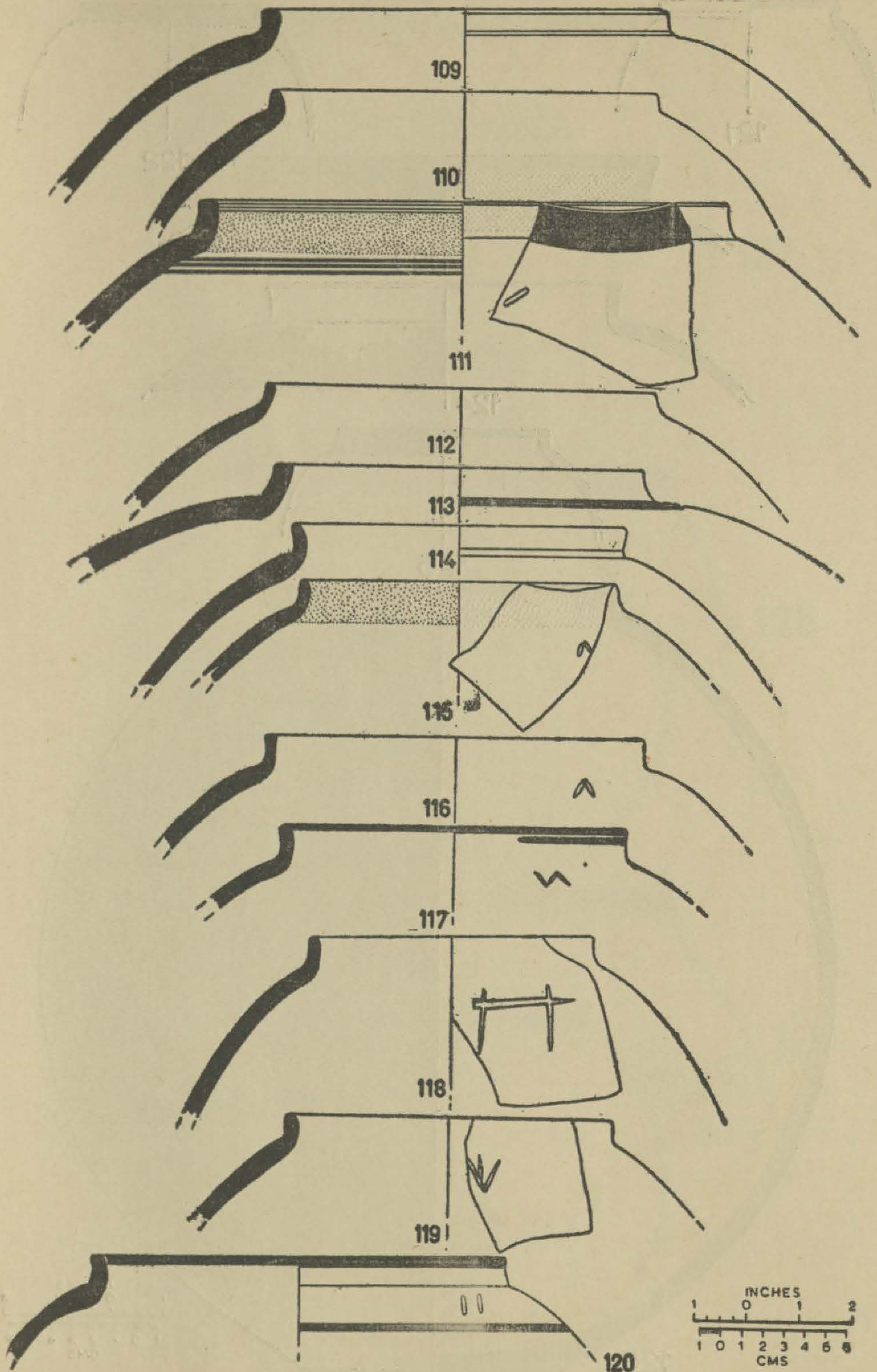


Fig. 19: Sarai Khola. Short-necked Kot Dijian ware, sub-type IXB

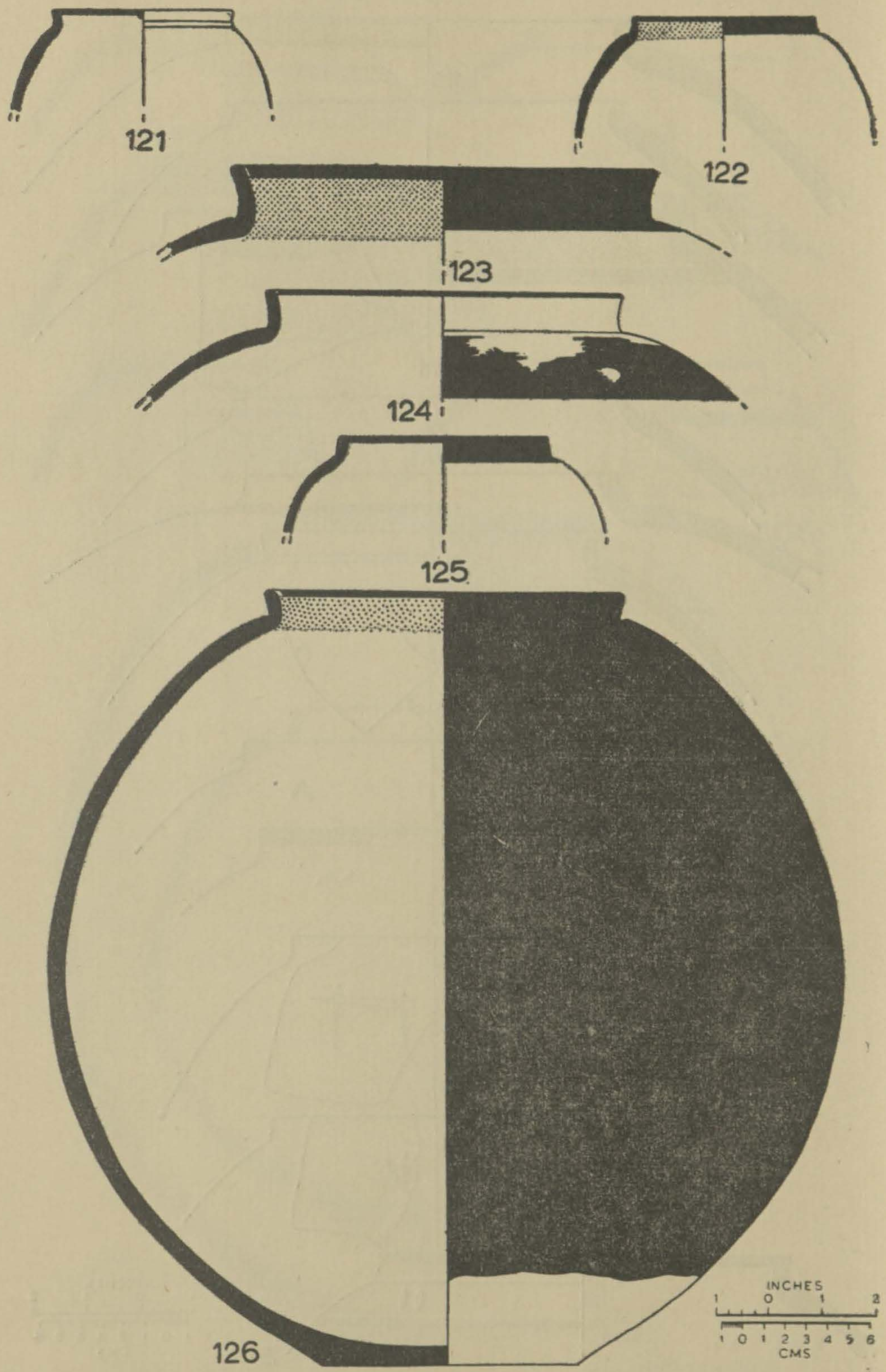


Fig. 20: Sarai Khola. Short-necked Kot Dijian ware, sub-type IXC

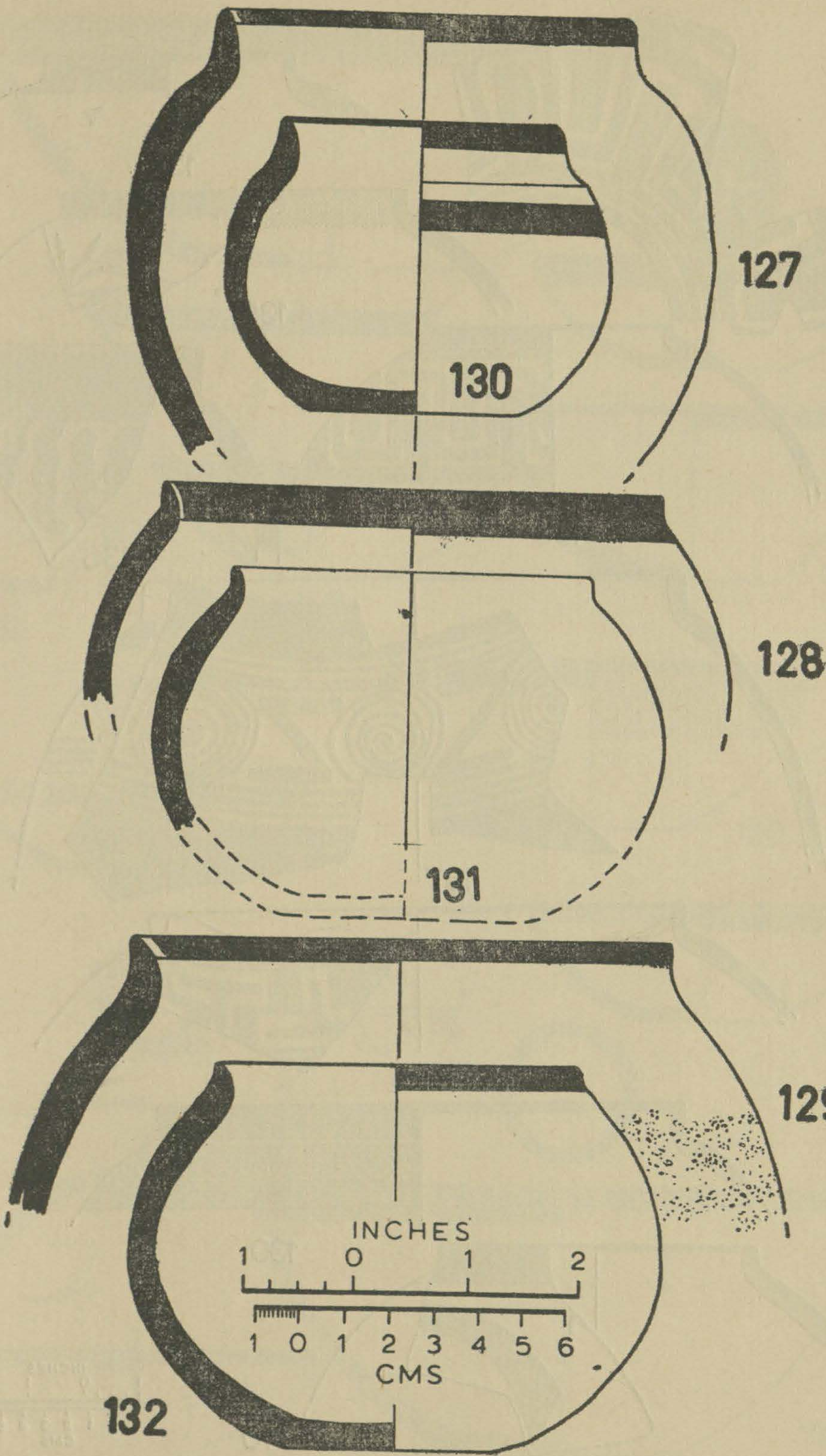


Fig. 21: Sarai Khola. Short-necked Kot Dijian ware, sub-type IXD

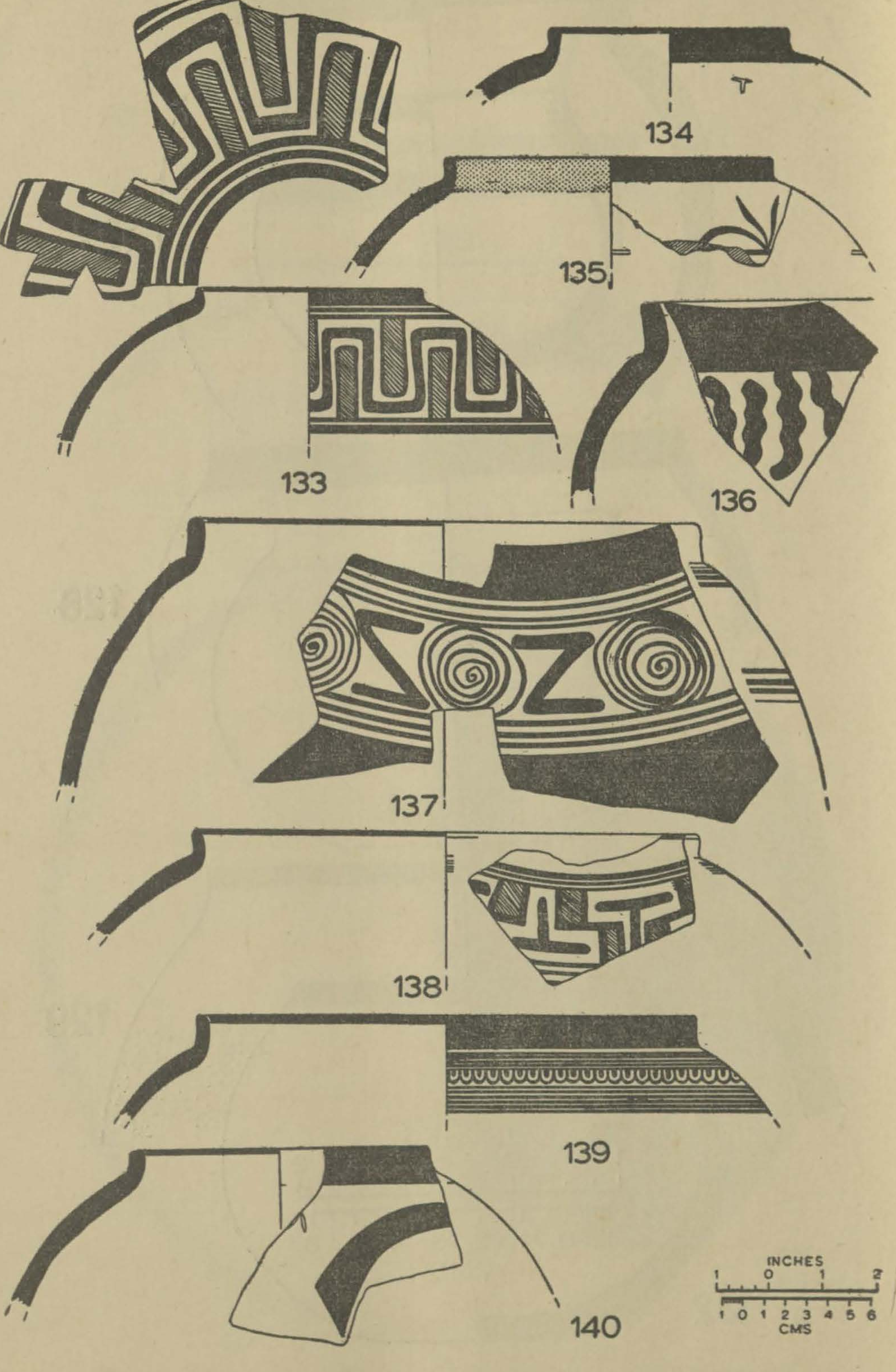


Fig. 22: Sarai Khola. Short-necked Kot Dijian ware, sub-type IXE

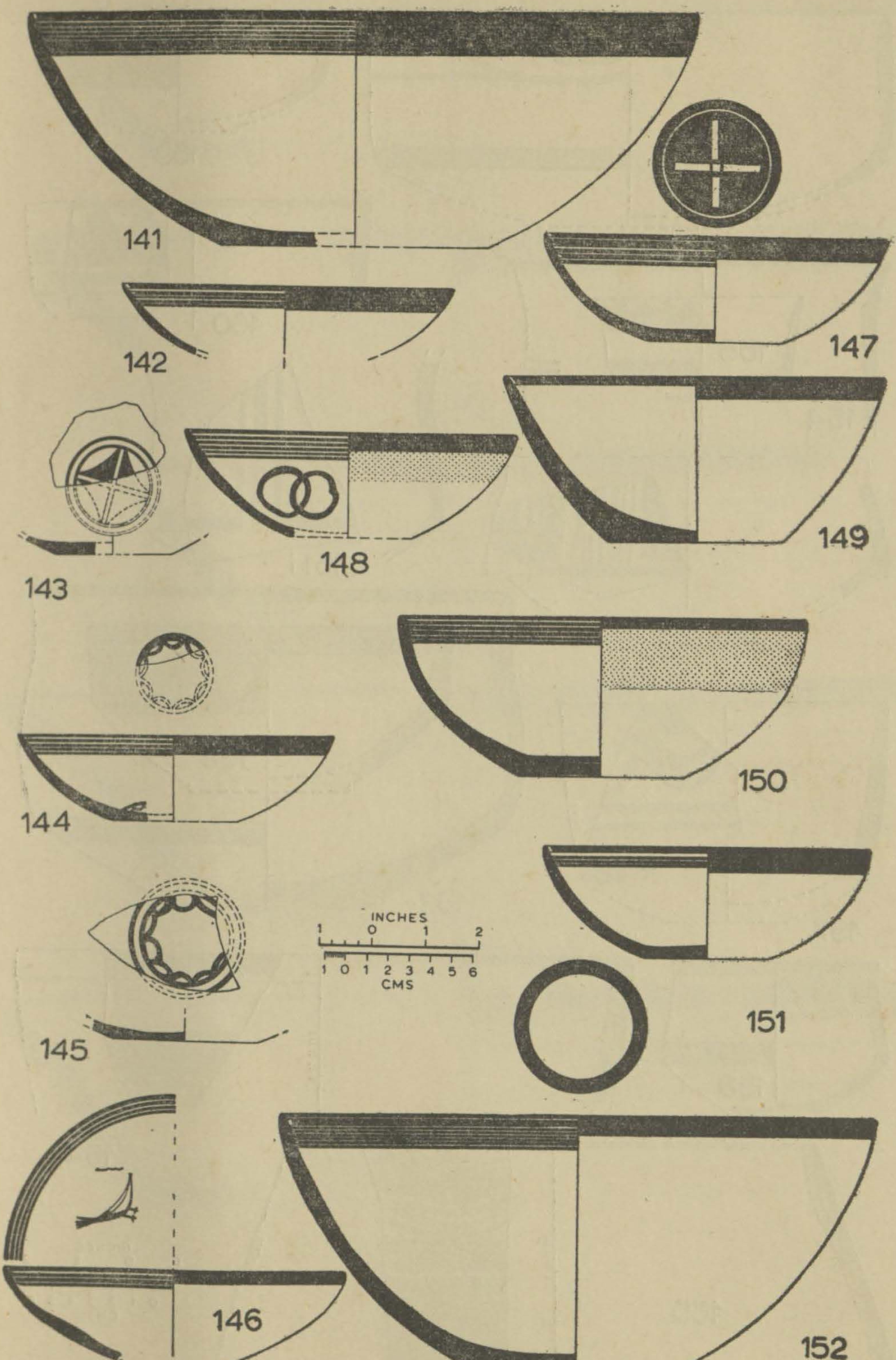


Fig. 23: Sarai Khola. Bowls with convex sides and sharp rim, type X

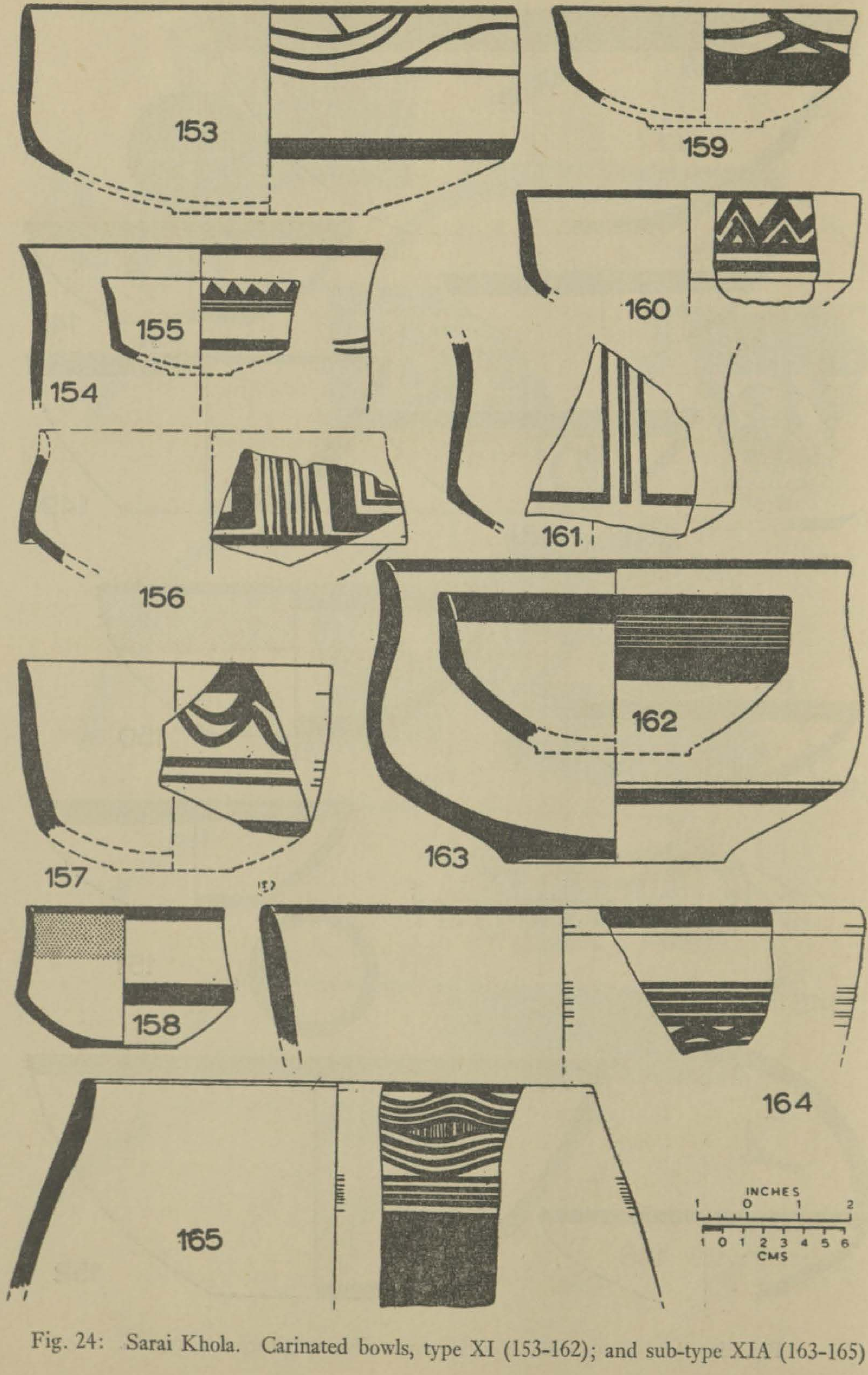


Fig. 24: Sarai Khola. Carinated bowls, type XI (153-162); and sub-type XIA (163-165)

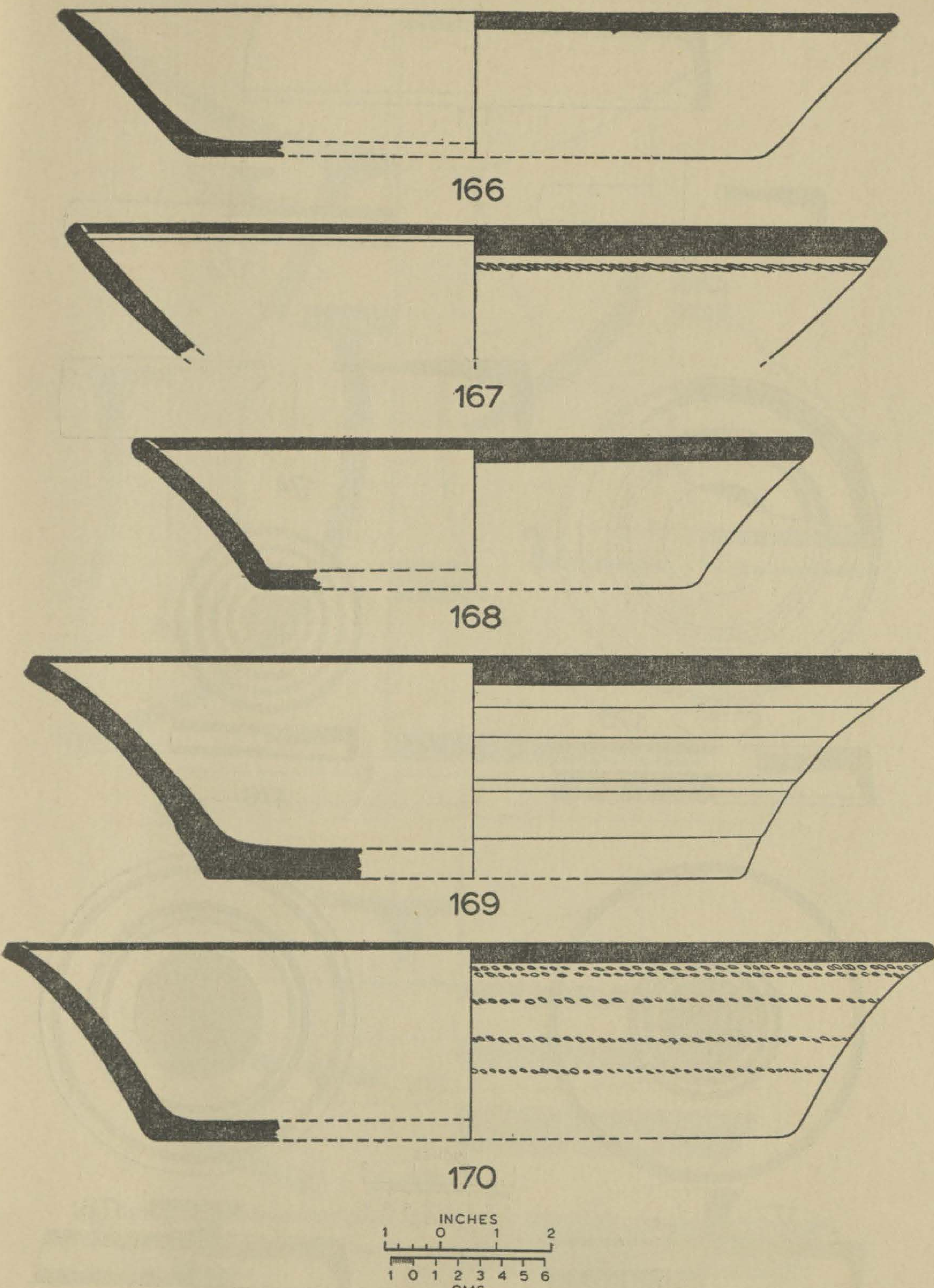


Fig. 25: Sarai Khola. Pans or dishes with flat bases and flaring sides, type XII

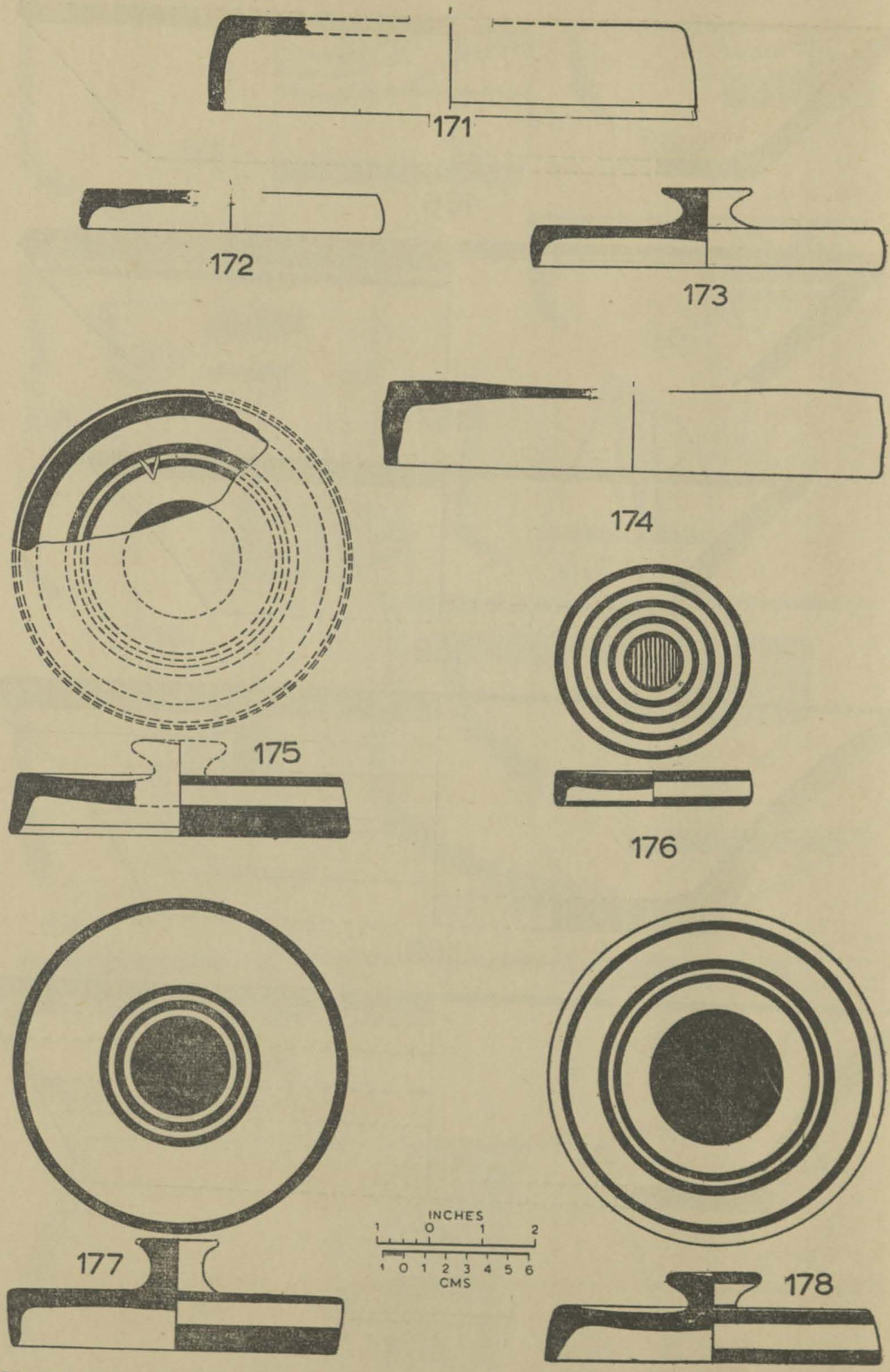


Fig. 26: Sarai Khola. Knobbed lids, type XIII (171-174), and sub-type XIIIA (175-178)

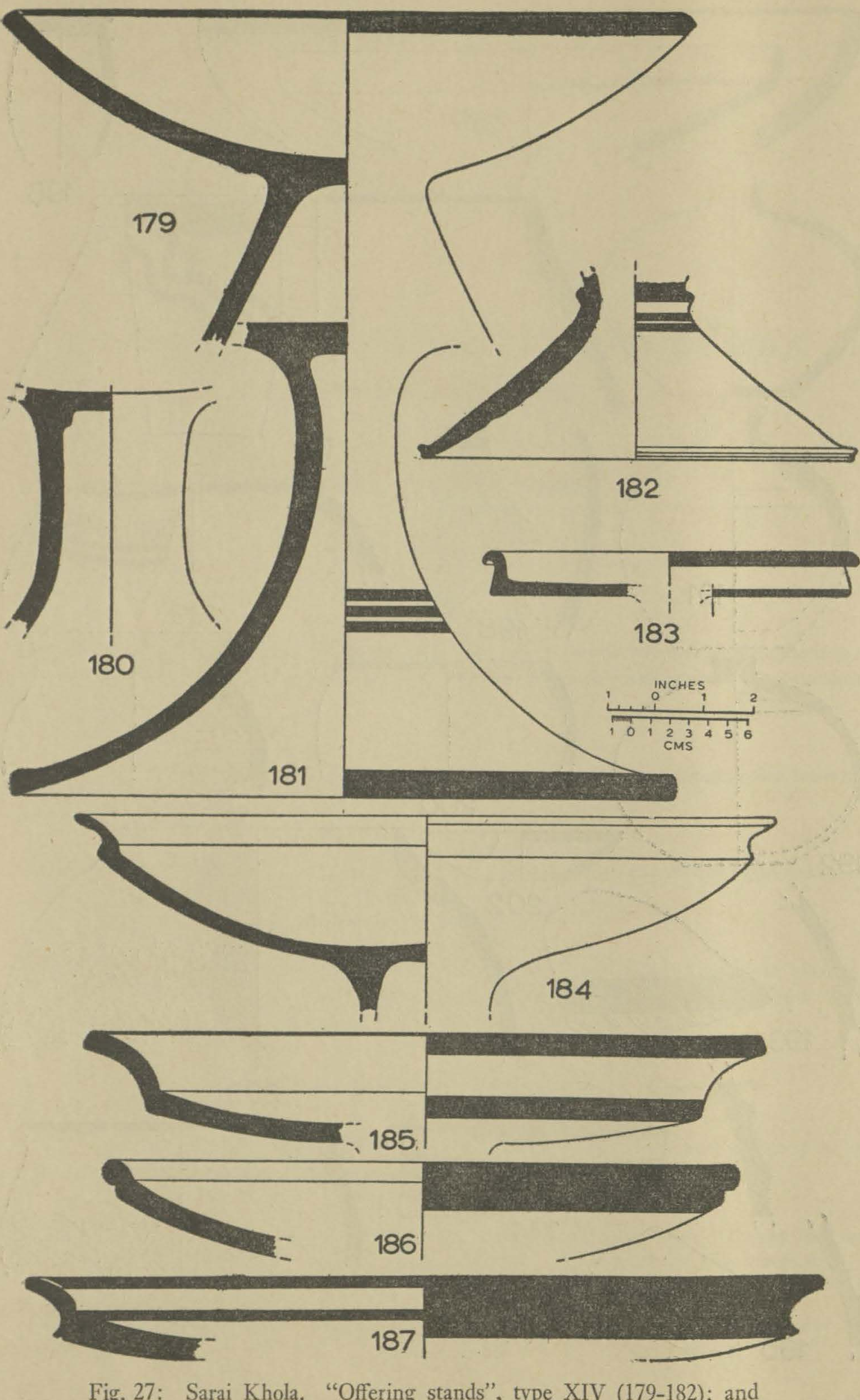


Fig. 27: Sarai Khola. "Offering stands", type XIV (179-182); and dishes sub-type, XIVA (183-187)

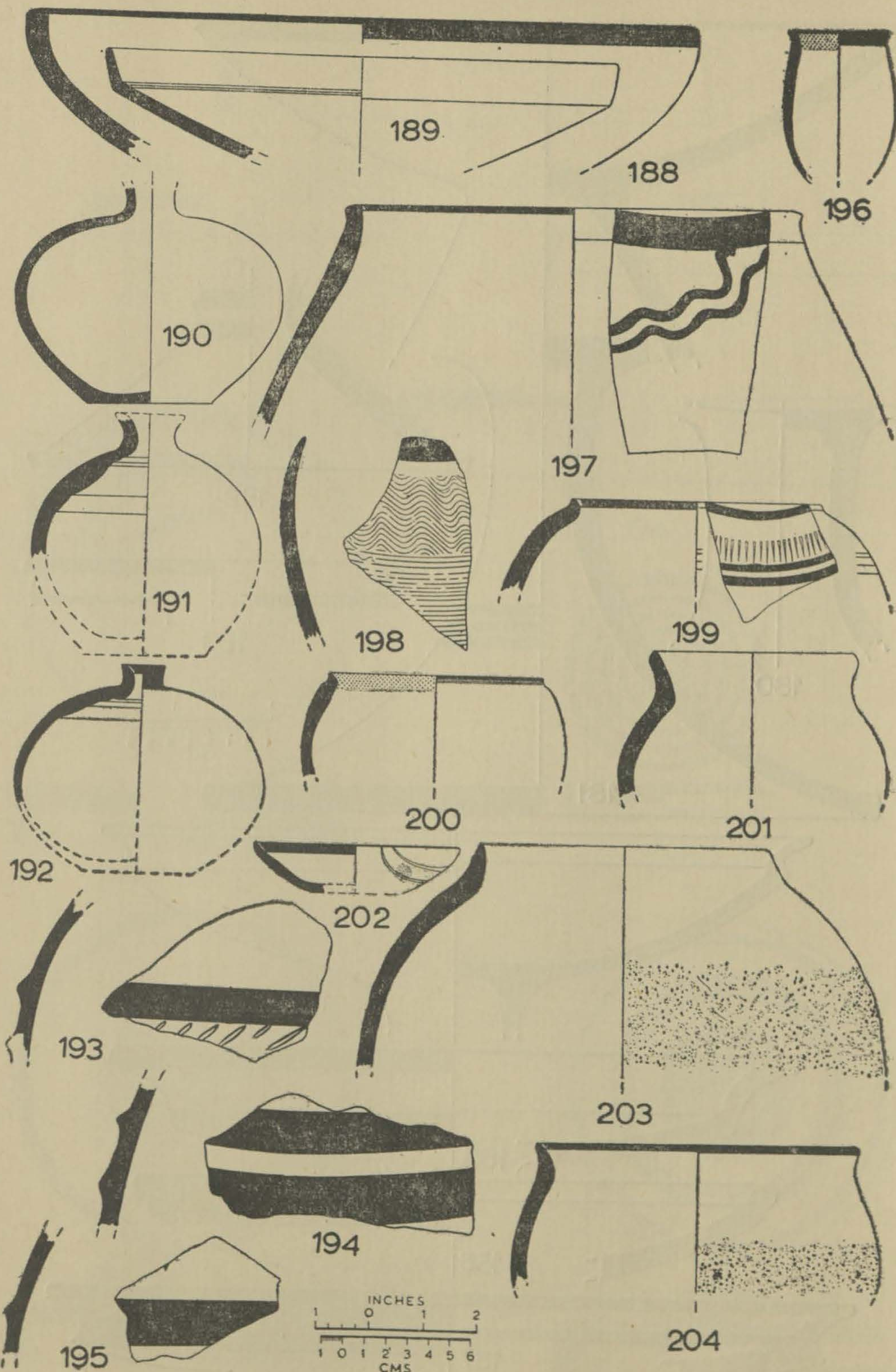


Fig. 28: Sarai Khola. Type XV (188-189); type XVI (190-192); type XVII (193-195), and miscellaneous pottery (196-204)

THE CATALOGUE OF POTTERY FROM SARAI KHOLA
(Periods I, IA and II)

by

Muhammad Abdul Halim

Pottery Type I

Fig 6

1. Fragment of red ware, red slipped and burnished on the inner side of the rim and on external surface of the vessel below the neck. The external surface of the neck shows signs of peeling or trimming with sharp instrument when the clay was wet.
SKh. Sq. 18/W, layer (II), Period I.

2. Fragment of red ware, red slipped and burnished on the inner side of the rim and external surface below the neck as No. I above. The neck is made thick where it joins with the body of the vessel.
SKh. Sq. 18/V, layer (10), Period IA (Transitional).

3. Fragment of red ware vessel of large size, surface burnished to dark-red colour on the inner side of rim and externally below the neck. There are marks of soot on the rim (Pl. XVIA, No. 7).
SKh. Sq. 17/W, layer (10), Period IA (Transitional).

4. Fragment of pale-red burnished ware of thick and coarse fabric. The clay is tempered with small pieces of stone. There is slip on the external surface but the inner side of rim is red slipped and burnished. There are signs to indicate that side clay was peeled off from the neck with a sharp instrument.
SKh. Sq. 18/V, layer (10), Period IA.

5. A thick piece of red ware, red burnished on inner side of the rim and externally below the neck.
SKh. Sq. 17/W, layer (9), Period II.

6. Fragment of red ware, coarse fabric with splayed-out rim having dented edge. The inner surface of the rim and external surface below the neck are burnished red.
SKh. Sq. 17/V, layer (9), Period II.

7. A piece of red ware, stone tempered and burnsihed to dark-red colour on the inner surface of the rim while the outer surface of the rim is treated with dark red slip. The rim has uneven surface, probably made with fingers.
SKh. Sq. 18/U, layer (8), Period II.

8. A fragment of a red ware, burnished to dark red colour on the inner side of the rim and externally below the neck.
SKh. Sq. 18/W, layer (II), Period I.

Pottery Type II

Fig. 7

9. A place of handmade vessel of red ware with dark red burnishing on both the external and inner surface of the rim and on the exterior surface of neck and shoulder. The external surface below the shoulder is coated with mud mixed with small particles of stone (Pl. XVIA, No. 6).
SKh. Sq. 17/V, layer (12), Period I.

10. Fragment of handmade vessel of red ware with aple red burnishing on the internal surface of the rim and externally on the neck and shoulder. The external of the vessel below the shoulder is thinly coated with sand mixed mud.
SKh. Sq. 17/V, layer (11), Period I.

11. A piece of handmade vessel of red ware with pale-red burnishing on the external surface of the rim and neck. The external surface of the vessel is also coated with mud mixed with small stone pieces.
SKh. Sq. 18/W, layer (*11*), Period I.

12. Fragment of handmade vessel of red ware, deep red burnishingb on the internal surface of the rim. Externally, it is burnished on the rim and shoulder. Below the shoulder, mud mixed with small stones is applied. The internal surface shows incised marks probably of a straw bursh.
SKh. Sq. 18/V, layer (10), Period IA.

13. Fragment of thick-textured and handmade vessel of red ware burnished to deep-red colour on the rim internally. The external surface before the neck is coated with mud mixed with fine grained sand.
SKh. Sq. 18/T, layer (12), Period I.

14. Fragment of thick textured and handmade vessel of red ware, pale-red burnishing on internal surface of the rim and externally on the neck and shoulder. The internal surface shows incised marks of a straw brush.
SKh. Sq. 18/W, layer (10), Period IA.

Fig 8

15. Fragment of medium textured and handmade vessel of red ware with disc base. The external surface is coated with thick layer of mud mixed with small particles of stone. The internal surface shows incised marks of straw.
SKh. Southern Trench Sq. 17/Z, layer (12), Period I.

16. Fragment of medium textured and handmade vessel of red ware having basket markes on the base which has dented edge. Above the base, the exterior surface is coated with a thin layer of mud mixed with fine grained sand.
SKh. Sq. 18/X, layer (10), Period IA.

Pottery Type III

Fig 8

17. Fragment of handmade red ware of medium thickness with deep red burnishing on the external surface. The internal surface shows incised lines of straw bursh. It has a carination near the base.
SKh. Sq. 18/X, layer (12), Period I.

18. Fragment with basket impression on the flat base of medium thickness, handmade, and of red ware with deep red burnishing on the external surface. The internal surface is uneven and shows rough incised lines.
SKh. Sq. 17/X, layer (II), Period I.

19. Fragment of handmade red ware with red burnsihing on the internal surface of the rim and externally below the neck.
SKh. Sq. 18/V, layer (10), Period IA.

20. Fragment of handmade red ware with dark-red burnishing on the inner surface of the rim and on the external surface below the neck. The inner surface is uneven and shows rough incised lines of straw brush.
SKh. Sq. 18/X, layer (10), Perid IA.

21. Fragment of handmade red ware and with dark-red burnishing on the inner surface of the rim and pale-red burnishing on the external surface below the neck. The inner surface of the vessel in uneven and shows finger marks.
SKh. Sq. 17/V, layer (6), Period II.

22. Fragment of a handmade red burnished ware with flat base. In shape and surface treatment it is similar to No. 17 above.
SKh. Southern Trench, Sq. 17/Z, layer (13), Period I.

23. Similar to No. 21 above.
SKh. Sq. 18/W, layer (11), Period I.

24. Fragment of medium textured handmade red ware with dark-red burnishing on the internal surface of the rim and on the external surface below the neck. The inner surface is uneven and shows rough incised lines of straw bursh.
SKh. Sq. 18/W, layer (11), Period I.

Pottery Type IV

Fig. 9

25. A large sized handmade bowls of red ware with flaring sides and basket impressions on the base which has indented edge. It is burnished in deep-red colour on both the internal and external surfaces (Pl. XVA, No. 2 and Pl. XVB).
SKh. Northern Trench, Sq. 18/A, layer (20), Period I.

26. A small sized handmade bowl of red ware with flaring sides and flat base with indented edge. It is burnished in deep-red colour on both the sides (Pl. XVA, No. 1).
SKh. Northern Trench, Sq. 18/A, layer (20), Period I.

27. A small sized handmade bowl of pale-red ware with flaring sides and basket impression on flat and indented base. It is burnished in deep-red colour on both the inner and outer surface.
SKh. Southern Trench, Sq. 16/Z, layer (12), Period I.

28. Fragment of handmade bowl of red ware with burnishing on both the internal and external surface. On the inner surface, incised rough parallel lines occur.
SKh. Sq. 17/V, layer (10,) Period IA.

29. Fragment of handmade bowl of red ware with flaring sides and having flat and indented base without basket impressions. Its both sides are burnished in deep-red colour.
SKh. Sq. 17/V, layer (11), Period I.

30. Fragment of handmade bowl of red ware with almost straight sides and carination near the base. The external surface of the bowl is burnished. The internal surface shows incisions of straw. It represents sub-type IVA.
SKh. Southern Trench, Sq. 16/Z, layer (11), Period I.

Bases of Burnished Vessels

Fig. 10

31. Disc base of handmade and red ware with burnishing on both the inner and outer surfaces. There are signs of basket impressions at the base with outer edge indented. The inner surface from where the burnishing is chipped off, shows that the original surface had straw marks or it was scratched before applying a thin layer of fine mud on which burnishing was done. This fragment belongs to Sarai Khola pottery type IV (Pl. XVIA, No. 4).
SKh. Sq. 17/T, layer (12), Period I.

32. Flat base, handmade and red burnished ware with indented edge. The fragment is burnished on both the internal and external surface. It is assignable to Sarai Khola pottery type IV (Pl. XVIA, No. 2).
SKh. Sq. 18/U, layer (11), Period I.

33. Flat base of handmade red ware with basket impressions. The external surace above the base has thin coat of mud mixed with grit. The fragment belongs to Sarai Khola pottery type II (Pl. XVIA, No. 1).
SKh. Sq. 17/W, layer (11) Period I.

34. Base fragment of handmade and red burnished ware with basket marks at the bottom. The external surface above the base is burnished while the internal surface is plain showing straw marks. This fragment probably belongs to Sarai Khola pottery type III.
SKh. Q.18/X, layer (9), Period II.

35. Base-fragment of evenly-fired and handmade red ware with basket impressions. On the outer surface above the base, a thin coat of mud mixed with small particles of stone is supplied. This piece belongs to Sarai Khola pottery type II (Pl. XVIA No. 5).
SKh. Sq. 17/X, layer (10), Period IA.

36. Base-fragment of unevenly-fired, thick textured, handmade red burnished ware with indented edge of the base which has basket impressions. It is burnished on both the sides. It belongs to Sarai Khola pottery type IV.
SKh. Sq. 17/W, layer (10), Period IA.

Pottery Type V

Fig. 11

37. Fragment of handmade ware, dull-red in colour with globular body and out-curved rim. The clay is tempered with grit and unevenly fired. Externally, the vessel is applied with dull-red slip (Pl. XVIB).
SKh. Sq. 17/V, layer (9), Period II.

38. Fragment of handmade ware, dull-red in colour with glabular body and slightly out-curved rim. The clay is tempered with grit and unevenly fired. The inner and outer surface shows incised marks of straw. There are soot marks on the body and the rim.

SKh. Sq. 18/X, layer (8), Period II.

39. Fragment of handmade ware, pale-red in colour and externally treated with light-red wash. The clay is tempered with grit. Incised straw marks occur on both the internal and external surface (Pl. XVIA, No. 3).
SKh. Sq. 17/X, layer (8), Period II.

40. A handmade dull-red ware showing globular body and short out-cruved rim. The clay is tempered with grit and firing is not uniform. It is externally treated with light-red slip which runs over the rim on the inner side.
SKh. Sq. 17/P ,layer (5), Period II.

41. Flat base of handmade vessel, dull-red ware and with mat impressions. The clay is tempered and body not fired evenly. A light-red slip is applied externally. The inner surface shows deep incised marks of straw.
SKh. Sq. 17/X, layer (6), Period II.

Pottery Type VI

Fig. 11

42. Fragment of a handmade cup of light-red ware with flat base. It is treated with wash on both the sides over which a thin line is painted in black on both the inner and outer edge of the rim.
SKh. Sq. 17/U, layer (10), Period IA.

43. Same as No. 42 above, but unpainted.
SKh. Sq. 17/W, layer (8), Period II.

44. Fragment of a flat based handmade cup of light red ware, treated with wash internally and externally.
SKh. Sq. 18/S, layer (8), Period II.

45. Same as No. 44 but unpainted.
SKh. Sq. 17/F, layer (6), Period II.

Pottery Type VII

Fig. 12

46. Globular grooved vessel of red ware, fine fabric, medium texture, short vertical neck, with flat base and red slipped externally. Black bands are painted on the neck and near the base (Pl. XVIA, No. 1).
SKh. Sq. 17/Z, layer (10), Period IA.

47. Globular vessel of red ware with grooved exterior, fine fabric, treated with light-red slip externally and painted in black consisting of single band on the neck and near the base and double bands in the middle of the body (Pl. XVIIA, No. 2).
SKh. Sq. 17/R, layer (5), Period II.

48. Fragment of grooved vessel of red ware of globular in shape, fine fabric, medium texture, short vertical neck, rounded rim and slipped with bright-red colour externally which runs over the rim and inner surface of the neck. The painted design consists of black band on the neck and tree with horns motif on the body below the shoulder (Pl. XVIB, No. 4).
SKh. Sq. 17/T, layer (9), Period II.

49. Fragment of grooved vessel of light-red ware, fine fabric, medium thickness, short neck and treated with pale-red slip on the external surface. A band is painted in chocolate colour on the neck. It has post-firing graffiti marks on the shoulder and rim.
SKh. Sq. 18/W, layer (7), Period II.

50. Fragment of grooved vessel of red-ware, fine fabric and medium texture. The exterior surface is treated with red slip on which wide bands are painted in black on the rim, neck and shoulder.
SKh. Sq. 17/U, layer (7), Period II.

51. Fragment of a globular and grooved vessel of red ware, with short vertical neck, of medium texture, externally applied with red slip and band painted in black on the neck and near the base. On the shoulder a *pipal* leaf design is also painted in black.
SKh. Southern Trench, Sq. 16/Z, layer (4B), Period II.

52. Fragment of grooved vessel of pale-red ware, thin texture and slipped externally with dark brown-colour which runs runs over the rim. It is painted in black.
SKh. Sq. 18/W, layer (9), Period II.

Fig. 13

53. Fragment of grooved vessel of pale-red ware, medium texture and slipped externally with dark-brown colour which runs on the rim and internal surface of the neck. Black bands are painted on the neck and rim.
SKh. Sq. 18/T, layer (9), Period II.

54. Fragment of grooved vessel of red ware, medium texture, externally treated with buff slip and internally with red on the neck. Bands are painted in black on the neck and below the shoulder.
SKh. Sq. 18/T, layer (9), Period II.

55. Fragment of grooved vessel of pale-red ware, medium texture and treated with red slip externally and internally on the neck.
SKh. Sq. 17/T, layer (6), Period II.

56. Fragment of grooved vessel of red ware, fine fabric, thin body, externally treated with bright-red slip which runs over the rim to the internal surface of the neck. Simple band is painted in black on the neck and shoulder.
SKh. Trench B, 19/F, layer (4), Period II.

57. Fragment of grooved vessel of pale-red ware, treated with red slip on the external surface.
SKh. Sq. 18/W, layer (4), Period II.

58. Same as No. 55 above but slipped with pale-red colour on the external surface and a painted black band on the neck.
SKh. Sq. 18/V, layer (4), Period II.

59. Same as No. 56 above but treated with buff slip.
SKh. Sq. 18/Q,layer (4), Period II.

60. Same as No. 53 above but treated with red slip on the external surface.
SKh. Sq. 18/W, layer (4), Period II.

61. Fragment of a grooved vessel of red ware of fine fabric, medium texture, red slipped and painted in black with sun motif. (Pl. XVIIB, No. 1).
SKh. Sq 18/V, layer (9), Period II.

62. Same as No. 61 above but with different painted design. (Pl. XVIIB, No. 13).
SKh. Sq. 18/W, layer (9), Period II.

63. Fragment of grooved vessel of red ware of fine fabric. Thin texture, bright-red slipped and painted in black on buff ground with circular designs.
SKh. Sq. 17/W, layer (8), Period II.

64. A Fragment of grooved vessel with black painting showing a horn? (Pl. XVIIB, No. 2).
SKh. Sq. 18/W, layer (6), Period II.

65. Fragment of grooved vessel of red ware, red slipped and painted in black on red and infilled with cream colour. The design shows a star or four-petalled flower (Pl. XVIIB, No. 3).
SKh. Sq. 18/W, layer (6), Period II.

66. Same as No. 57 above but is of dull ware and unevenly fired.
SKh. Sq. 18/W, layer (4), Period II.

Fig. 14

67. Fragment of grooved vessel of red-ware, having fine fabric, thin body and slipped with bright-red colour over which painting is done in black with arrow designs.
SKh. Sq. 17/W, layer (6), Period II.

68. Same as No. 67 above.
SKh. Southern Trench Sq. 18/Z, layer (6), Period II.

69. Fragment of a grooved vessel of red ware, red slip and painted in black with balls (Pl. XVIIB, No. 8).
SKh. 18/V, layer (6), Period II.

70. Fragment of a grooved vessel of red ware, red slipped and painted in block with cross and parallel bands below (Pl. XXVIIB, No. 8).
SKh. Sq. 18/V, layer (6), Period II.

70. Fragment of a grooved vessel of red ware, red slipped and painted in black with cross and parallel bands below (Pl. XVIIB, No. 5).
SKh. Sq. 18/V, layer (4), Period II.

71. Fragment of a grooved vessel of red ware, thick texture, red slipped and painted in black with white infilling.
SKh. Sq. 17/R, layer (5), Period II.

Sub-type VIIA

Fig. 14

72. Fragment of red ware with wavy grooves, fine fabric, thin bodies and teated with red slip externally.
SKh. Sq. 17/U, layer (10), Period IA.

73. Fragment of red ware, wavy grooved exterior, fine fabric, think body with short neck and treated with bright-red slip below the shoulder. The painting is done in black on the rim and with pinkish-buff colour on the shoulder.
SKh. Sq. 18/T, layer (9), Period II.

74. Fragment of red ware, wavy grooved exterior, fine fabric, thin body, having almost vertical neck and treated with bright-red slip below the shoulder. A band is painted in chocolate colour on the neck which runs over the rim while another band in black is painted on the shoulder.
SKh. Sq. 18/U, layer (9), Period II.

75. Fragment of light-red ware having grooves on the external surface of thin body and treated with dark-brown slip (Pl. XVIIIB, No. 10).
SKh. Sq. 18/W, layer (9), Period II.

76. Fragment of light-red ware, with wavy grooved surface, thin body, treated externally with dull-red slip and painted in black on the neck with a band (Pl. XVIIB, No. 9).
SKh. Sq. 18/Z, layer (8), Period II.

77. Similar to No. 76 above but of medium texture having slightly everted rim and treated with red slip externally and internally on the rim. Bands are painted in black on buff slip on the neck and shoulder.
SKh. Sq. 18/X, layer (8), Period II.

Sub-type VIIB

Fig. 14

78. Fragment of red ware, with wavy grooved exterior, medium texture and red slipped externally. A black band is painted where the wavy grooves begin (Pl. XVIIB, No. 12).
SKh. Sq. 18/V, layer (9), Period II.

79. Fragment of red ware with wavy grooves, thick body, treated externally with bright-red slip and internally with wash only.
SKh. Sq. 18/U, layer (9), Period II.

80. Fragment of red ware with wavy grooves, about vertical neck, rounded rim, treated externally with red slip and painted in black with bands on the neck and below the shoulder.
SKh. Sq. 17/X, layer (7), Period II.

81. Fragment of red ware, with wavy and straight grooves, fine fabric, medium texture, externally treated with red slip on which black bands are painted above and below the shoulder.
SKh. Sq. 17/X, layer (7), Period II.

Pottery Type VIII

Fig. 15

82. Fragment of globular vessel of red ware with short veritcal neck. It has a vertically perforated flange below the neck. It is treated with light-red wash externally and a black band is painted over the neck and rim.
SKh. Sq. 17/X, layer (10), Period IA.

83. Fragment of a large size globular vessel of red ware with sharp vertical rim and a prominent flange on the shoulder. The flange is vertically perforated. The vessel is treated with light-red wash and has painted black band over the lip of the rim.
SKh. Southern Trench, Sq. 18/Z, layer (8), Period II.

84. Fragment of a large size globular vessel of red ware with short vertical neck and flat rim. It has a prominent flange on the shoulder. It has a painted black band over the neck and flange.
SKh. Sq. 18/S, layer (8), Period II.

Sub-type VIIIA

Fig 15

85. Fragment of a small globular vessel of red ware with short vertical neck and perforated flange on the shoulder. Externally, the vessel is treated with buff slip on which painting is done in black colour. The designs consist of horizontally drawn bands, lines, dots and scrolls (Pl. XXA, No. 7).
SKh. Sq. 17/V, layer (9), Period II.

86. Fragment of a large flanged vessel of red ware, externally treated with buff slip and painted in black. The main designs consist of diagonally drawn wavy bands (Pl. XXV, No. 1).
SKh. Sq. 18/T, layer (9), Period II.

87. A small flanged globular vessel of red ware with disc base and short vertical rim. Externally, the vessel is treated with light-red slip and painted in black below the flange. The painted designs consist of horizontally drawn scrolls.
SKh. Sq. 18/7, layer (7), Period II.

88. Fragment of large flanged vessel of dull-red ware, globular in shape and with short vertical neck and flat rim. It is treated externally with buff wash and is painted in black with a wide band covering the neck, flange and shoulder.
SKh. Sq. 18/T, layer (6), Period II.

89. Fragment of a large globular and flanged vessel of red ware with short verticl neck and flat rim. It is treated on the external surface with buff slip over which it is painted in black and red (Pl. XXA, No. 2),
SKh. Sq. 18/Q, layer (5), Period II.

Fig 16

90. Fragment of a flanged vessel of dull-red ware. It is globular in shape and has short vertical neck and flat rim. Externally, it is treated with buff slip and painted with black colour. The painted designs consist of horizontally drawn parallel lines and concentric circles on the shoulder while the remainder of the body below the shoulder is painted in black.
SKh. Sq. 18/R, layer (5), Period II.

Pottery Type IX

Fig. 17

91. Fragment of red ware with vertical neck, fine fabric, medium texture, slipped with deep-red colour externally and inside the neck. It is painted on the neck in black with a simple band.
SKh. Sq. 18/X, layer (10), Period IA.

92. Fragment of red ware with vertical straight neck, fine fabric, thin texture, externally red slipped and painted in black with a band on the neck.
SKh. Sq. 18/T, layer (9), Period II.

93. Fragment of red ware with vertically straight and short neck, fine fabric, thin texture, externally red slipped and painted in black with band on the neck.
SKh. Sq. 18/U, layer (9), Period II.

94. Same as at No. 92 above.
SKh. Sq. 18/X, layer (9), Period II.

95. Fragment of a short-necked vessel of dark-red ware, fine fabric, externally slipped with dark-red colour. A band in black runs on the neck and its flattened rim.
SKh. Sq. 18/T, layer (9), Period II.

96. As at No. 95 above as regards colour, fabric and slip but it is painted in black on the neck and near the base.
SKh. Sq. 18/T, layer (9), Period II.

97. A complete vessel of red ware, spherical in shape with short neck and disc base. It is made of fine and well levigated clay, has medium thickness and slipped on the external surface with dark red colour which also runs over the rim and inside the neck. Black bands are painted on neck and near the base, while horizontally drawn multiple lines are painted on the shoulder.
SKh. Sq. 17/T, layer (8), Period II.

98. Similar to No. 97 above but with flat base and slightly carinated above the base.
SKh. Sq. 17/U, layer (8), Period II.

99. A complete spherical vessel with short neck, flat base and fired to red colour. It is made of fine clay and treated with deep-red slip externally. The painting consists of bands on the neck and near the base in black. On the shoulder, boat design is painted in balck (Pl. XVIIIA, No. 2).
SKh. Sq. 17/S, layer (8), Period II.

100. Complete short-necked vessel with flat base and spherical in shape. It is of red ware and treated on the external surface with bright-red slip on which black bands are painted on the neck and near the base (Pl. XVIIIA, No. 1).
SKh. Sq. 18/S, layer (8), Period II.

Sub-type IXA

Fig. 18

101. Fragment of a storage jar of red ware with short vertical neck, made of fine clay, has medium texture and is well fired. On the exterior surface below the shoulder, a coat of fine mud is applied. A wide red band is painted on the shoulder which runs over the rim to the inner side of the neck. A black band is painted outside the rim and two horizontal bands run on the shoulder. The shoulder bears a potter's mark, incised before firing the vessel.
SKh. Sq. 18/T, layer (9), Period II.

102. Fragment of a jar of red ware with short neck, flattened rim, made of fine clay, having medium thickness, externally red slipped and black bands painted on the rim and shoulder.
SKh. Sq. 18/T, layer (9), Period II.

103. Fragment of a short-necked vessel of red ware, flattened rim, made of fine clay and a coat of fine mud is applied on the exterior surface below the shoulder over buff slip. On the external surface, a pale-red band is painted on the shoulder and neck which runs over the rim. Black bands are also painted on the rim and shoulder.
SKh. Sq. 18/U, layer (7), Period II.

104. Fragment of a short-necked vessel of red ware, fine fabric and red slipped. A pinkish-buff band is painted on the shoulder bordered by black band on the neck and a thin black line on the shoulder.
SKh. Sq. 18/X, layer (9), Period II.

015. Fragment of a short-necked vessel of red ware with flattened rim. The surface below the shoulder is coated with fine mud. On the shoulder, a thick band is painted in light-brown which runs over the rim and also on the interior of neck. Black bands are painted externally on the rim and shoulder.
SKh. Sq. 18/S, layer (8), Period II.

106. Fragment of a short necked vessel of light-red ware with flattened rim and buff slipped. A coat of fine mud is applied on the body below the shoulder. On the shoulder and neck, bright-red band is painted which runs over the rim to the internal surface of the neck. Black bands are painted on the rim and shoulder. A potter's mark occurs on the shoulder.
SKh. Sq. 17/V, layer (5), Period II.

107. A complete jar of red ware with short vertical neck, flat base, flattened rim, and application of fine mud on the external surface below the shoulder. On the shoulder and neck, a wide band is painted with light-red colour which runs over the rim. Black bands are painted on the rim and shoulder.
SKh. Sq. 18/S, layer (8), Period II.

108. A complete storage jar of red ware, large in size with flat base, short vertical neck, flattened rim and fine mud applied on the external surface below the shoulder. On the shoulder and neck a wide band in light-red colour is painted over which black bands are painted on the neck and shoulder (Pl. XIXA).
SKh. Sq. 18/W, layer (8), Period II.

Sub-type IXB

Fig 19

109. Fragment of short-necked vessel of dull-red ware with flattened rim and thick texture.
SKh. Sq. 18/S, layer (7), Period II.

110. Fragment of a short-necked vessel of dull red ware with rounded rim and without any surface treatment.
SKh. Southern Trench Sq. 18/Z, layer (9), Period II.

111. Fragment of a short vertical necked vessel of red ware, thick texture, flattened rim and applied externally with light-red slip which runs over the rim to the inner surface of the neck. Externally, a black band is painted on the neck. The vessel bear a potter's mark on the shoulder.
SKh. Sq. 17/T, layer (6), Period II.

112. Fragment of short vertical necked vessel of dull-red ware with rounded rim and without surface treatment.
SKh. Sq. 18/T, layer (4), Period II.

113. Similar to Nol. 111 above but without any surface treatment.
SKh. Sq. 17/W, layer (4), Period II.

114. Fragment of short vertical necked vessel of red ware with red slip applied on the external surface.
SKh. Sq. 17/V, layer (7), Period II.

115. Similar to No. 112 above but applied with red slip on the external surface which runs over the rim to the inner surface of the neck. On the shoulder of the vessel is a potter's mark, incised before firing.
SKh. Sq. 18/Q, layer (5), Period II.

116. Fragment of a short-necked vessel of light-red ware with flattened rim and treated with mud wash externally. There is a potter's mark on the shoulder of the vessel.
SKh. Sq. 18/V, alyer (8), Period II.

117. Fragment of short necked vessel of red ware treated with wash and having pre-firing incised potter's mark on the shoulder.
SKh. Sq. 18/W, layer (7), Period II.

118. Fragment of short, vertical necked vessel of red ware treated externally with mud wash and having an incised potter's mark on the shoulder.
SKh. Sq. 18/X, layer (4), Period II.

119. Fragment of a short, vertical necked vessel of red ware, applied externally with light-red slip and having potter's mark on the shoulder.
SKh. Sq. 18/V, layer (6), Period II.

120. Fragment of short vertical necked vessel of red ware, externally red slipped and painted in black with bands on the rim and shoulder. The vessel bears potter's mark on the shoulder. So far as surface treatment of this vessel is concerned, it belongs to type IXA.
SKh. Sq. 18/T, alyer (9), Period II.

Sub-type IXC

Fig. 20

121. Upper part of a short-necked vessel of light-red ware, fine fabric, sharp rim, thin body and with dark-grey slip on the external surface which runs over the rim.
SKh. Southern Trench, Sq. 18/Y, layer (9), Period II.

122. Same as No. 121 above but with a black band on the rim.
SKh. Sq. 18/Y, layer (9), Period II.

123. Upper part of a red ware vessel with short and vertical neck, having fine fabric, medium texture and slipped both externally and internally on the neck with dark-grey colour. A wide black band is painted externally on the shoulder and neck which runs over the rim internally.
SKh. Sq. 18/T, layer (9), Period II.

124. Fragment of a vessel of light-red ware with short and vertical neck, rounded rim, rough body and treated with mud wash over the shoulder and neck. Below the shoulder, dark-grey slip is applied on the rough surface. A black band is painted on the rim.
SKh. Sq. 17/W, layer (9), Period II.

125. Fragment of light-red ware with short vertical rim, thin texture, externally treated with dark-grey slip and painted in black with a band on the neck which runs over the rim.
SKh. Sq. 17/T, layer (7), Period II.

126. A complete vessel with short and vertical neck, flat base, fired to red colour and dark-grey slip applied all over the body which terminates just above the base (Pl. XIXB).
SKh. Sq. 18/T, layer (9), Period II.

Sub-type IXD

Fig. 21

127. Part of a small globular vase of red ware, red slipped externally with traces of mud aplication over the lower half of the body. A black band is painted on the rim.
SKh. Sq. 17/T, layer (7), Period II.

128. Same as No. 127 above but without application of mud on the external surface.
SKh. Sq. 17/W, layer (7), Period II.

129. Fragment of a spherical vase of red ware, sharp rounded rim and treated externally with red slip. Below the shoulder, mud is applied on external surface of the vase like those of type IXA. It is also painted in black with band on the rim.
SKh. Sq. 18/X, layer (6), Period II.

130. Complete short necked spherical vase of red ware, flat base. It is without any surface treatment but is painted in black with bands on the neck and shoulder.
SKh. Sq. 18/V, layer (7), Period II.

131. Fragment of a short necked spherical vase of red ware with light-red slip applied on the external surface.
SKh. Sq. 17/V, layer (7), Period II.

132. A complete vase of red ware with short neck and flat base. Externally, bright-red slip is applied on which black band is painted on the neck.
SKh. Southern Trench, Sq. 18/Z, layr (6), Period II.

Sub-type IXE

Fig 22

133. Fragment of a vessel of red ware with short neck, fine fabric and thin body. It is painted with chocolate colour on buff slip with vertically arranged hatched rectangles and separated by zigzag lines (Pl. XXA, 9).
SKh. Sq. 17/T, layer (9), Period II.

134. Fragment of red ware with short and vertical neck, red slipped externally and painted in black with band on neck. A graffiti mark also occurs on the shoulder.
SKh. Sq. 18/V, alyer (5), Period II.

135. Fragment of a short, vertical necked vessel of red ware, medium texture, red slipped externally and painted in black with a band on the neck and plant design on the shoulder. (Pl. XXA, 4).
SKh. Sq. 17/Q, layer (5), Period II.

136. Fragment of a red ware with short vertical neck, flattened rim and applied externally with buff slip. It is painted in black with band on the neck and hanging wavy lines on the shoulder.
SKh. Sq. 17/Y, layer (6), Period II.

137. A fragment of light-red ware with short and vertical neck, flattened rim and externally buff slipped. It is painted in black on buff with spirals separated by 'Z' design (Pl. XXA, No. 3).
SKh. Sq. 18/X, layer (8), Period II.

138. Fragment of light-red ware, fine fabric and thin body. It is painted in black on buff with hatched rectangles and 'T' designs (Pl. XXA, No. 5).
SKh. Sq. 18/T, layer (9), Period II.

139. Fragment of short, vertical necked vessel of red ware, rounded rim, medium texture, red slipped externally and painted in black with horizontal parallel lines, vertical loops and dots (Pl. XXA, 8).
SKh. Sq. 17/U, layer (6), Period II.

140. Fragment of short, vertical necked vessel of red ware, medium exture, red slipped externally and painted in black with a wide band on neck and a horn on the shoulder. The potter's mark is on the shoulder (Pl. XXA, No. 6).
SKh. Sq. 18/W, layer (4), Period II.

Pottery Type X

Fig. 23

141. Fragment of a flat based bowl of red ware, red slipped on both the sides. A series of a parallel lines are painted horizontally on the inner side just below the rim and a band on the external surface in black colour.
SKh. Sq. 18/T, layer (9), Period II.

142. Fragment of a red ware bowl of fine clay. It is treated on the inner surface with pinkish buff slip. The painted decoration are similar to No. 141 above.
SKh. Sq. 18/W, layer (9), Period II.

143. Lower part of a bowl of red ware with flat base. On the inner side of the bottom, circular traingular designs are painted in black. It is treated with light-red slip on the internal surface and externally with wash.
SKh. Sq. 18/W, layer (9), Period II.

144. Fragment of a red ware bowl, fine fabric and slipped on both the sides with brown colour. A series of parallel lines are painted on the inner side below the rim and a thick band occurs on the external surface which is carried over the rim. A circle with wavy loops is painted on the inner bottom in black colour (Pl. XXB, No. 4).
SKh. Sq. 17/U, layer (8), Period II.

145. Base fragment of a red ware bowl, fine fabric, with red slip applied on the inner side on which circular designs with wavy loops are painted in black at the bottom.
SKh. Sq. 17/U, layer (8), Period II.

146. Fragment of a red ware bowl with pinkish buff slip on the inner surface and simple wash externally. A series of parallel horizontal lines are painted in black on the inner surface below the rim and a band is painted on the outer surface which is carried over the rim. On the side, a bird motif is also painted (Pl. XXB, No. 3).
SKh. Sq. 18/S, layer (8), Period II.

147. Complete bowl of fine red ware with buff slip on the internal surface and wash on the external surface. It is painted in chocolate colour representing group of parallel lines of the internal surface below the rim, a thick band on the external surface and a compartmented circular design on the inner bottom (Pl. XXB, No. 2).
SKh. Sq. 17/V, layer (7), Period II.

148. Fragment of a fine red ware bowl with bright-red slip applied on the internal surface and on the rim externally. A band on the external surface, a group of parallel lines on the internal surface below the rim and two intersecting circular designs are painted on the inner side in black (Pl. XXB, No. 1).
SKh. Sq. 18/U, layer (7), Period II.

149. Complete bowl of red ware with flat base and treated with dark-red slip on the internal surface and brownish wash on the exterior. The clay is tempered with small particles of stone. A black band is painted on both the sides of the rim.
SKh. Sq. 18/X, layer (8), Period II.

150. Bowl of red ware with bright-red slip on the inner surface and the rim externally. A band on the rim on the external surface, parllael lines on the internal surface near the rim and two circular designs at the inner bottom are painted in black.
SKh. Southern Trench Sq. 17/Z, layer (6), Period II.

151. Complete bowl of fine red ware resembling in surface treatment and decorative design with No. 150 above (Pl. XXC, No. 1).
SKh. Sq. 18/W, layer (5), Period II.

152. Complete bowl of red ware similar to those described under Nos. 141 and 151.
SKh. Trench B, Sq. 20/E, layer (5), Period II.

Pottery Type XI

Fig. 24

153. Fragment of a carinated bowl, made of well levigated clay and bright-red slip applied on both the external and internal surface. It is painted externally in black and the decorative designs consist of bands over the carination and rim with loops below (Pl. XXB, No. 5).,
SKh. Sq. 17/W, layer (9), Period II.

154. Fragment of a bowl of dull-red ware, fine paste and with dark-borwn slip on the external surface. It is painted on the rim in black with a band and on the external surface with two lines (Pl. XXB, No. 6).
SKh. Sq. 17/U, layer (9), Period II.

155. Fragment of a small carinated bowl of red ware which is red slipped on both the internal and external surface. Externally, black bands and triangles are painted.
SKh. Sq. 17/R, layer (4), Period II.

156. Fragment of a carinated bowl of red ware with buff slip applied on the external surface and treated with wash internally. On the exterior surface, it is painted in black representing vertically-drawn lines at intervals making zones of geometric motifs (Pl. XXB, No. 7).
SKh. Sq. 18/S, layer (9), Period II.

157. Fragment of a bowl of red ware with bright-red slip applied on both the sides. It is painted externally in black loops (Pl. XXB, No. 13).
SKh. Sq. 18/V, layer (7), Period II.

158. A complete carinated bowl of fine red ware with bright-red slip applied on the external surface which ends just above the disc base. The red slip is carried on the inner side. Externally, on the carination and rim bands are painted in black (Pl. XXB, No. 9).

159. Fragment of a carinated bowl of red ware with dull-red slip applied on the internal surface and externally down to the carination. Black bands and loops are painted externally (Pl. XXB, No. 11).
SKh. Sq. 17/U, layer (9), Period II.

160. Fragment of carinated bowl of red ware having slightly flat rim and treated with bright-red slip on both the sides. On the external surface, bands, loops and triangles are painted with black colour.
SKh. Sq. 18/V, layer (4), Period II.

161. Fragment of a carinated bowl of dull-red ware with bright-red slip applied externally. Vertical bands in white bordered by black lines are painted on the external surface above the carination, while on the carination itself, a black band is painted horizontally (Pl. XXB, No. 8).
SKh. Sq. 18/U, layer (9), Period II.

162. Fragment of a carinted bowl of red ware with bright-red slip applied on the external surface and partly on the inner side. The decorative designs in black include a thick band on the inner surface just below the rim. Externally, thick and thin bands and lines are drawn below the rim and the carination.
SKh. Sq. 17/R, layer (5), Period II.

Sub-type XIA

Fig. 24

163. A complete carinated bowl of light-red ware with ring base and red slipped on both the sides. Black bands are painted on its rim and below the carination (Pl. XXC, No. 2).
SKh. Sq. 18/U, layer (8), Period II.

164. Fragment of a thick textured and carinated bewl of light-red ware with bright-red slip on both the saide.s Black bands and loops are painted externally (Pl. XXB, No. 12).
SKh. Sq. 18/T, layer (9), Period II.

165. Fragment of a thick textured bowl of dull-red ware which is treated externally with buff slip. Horizontal and wavy parallel bands with hatched leaf resembling eye? designs are painted with black colour on buff slip.
SKh. Sq. 18/W, layer (7), Period II.

Pottery Type XII

Fig, 25

166. Flat based pan or dish of dull-red ware with flared out sides and rounded rim. It is treated with light-red slip. A black band is painted on the external surface of the rim.
SKh. Sq. 18/W, layer (9), Period II.

167. Fragment of oblique rimmed pan of red ware with red slip applied on both internal and external surface. A wide black band is painted over the rim on both the external and internal surface. Below the rim the pan contains deep incised rope or string marks on the external surface.
SKh. Sq. 18/T, layer (7), Period II.

168. Dish or pan of a pale-red ware with flat base and obliquely projecting rim. It is applied with chocolate colour slip on both the internal and external surface. A black band is painted on both the sides of the rim.
SKh. Sq. 17/X, layer (6), Period II.

169. Medium textured pan of a red ware with flat base and oblique rim. It is treated with red slip on the internal surface. A black band is painted on the rim.
SKh. Sq. 17/Q, layer (5), Period II.

170. Similar to No. 169 above in shape and surface treatment but in addition, it contains string marks on the exterior surface.
SKh. Sq. 17/V, layer (5), Period II.

Pottery Type XIII

Fig. 26

171. Fragment of a lid of pale-red ware. It is unevenly fired and treated on the external surface with bright-red slip.
SKh. Sq. 18/W, layer (10), Period IA.

172. Fragment of a lid of dull-red ware. It is treated with wash on both the external and internal surface.
SKh. Sq. 18/Y, layer (6), Period II.

173. Fragment of a knobbed lid of dull-red ware. It is treated with pale-red slip on the external surface.
SKh. Sq. 17/W, layer (5), Period II.

174. Fragment of a lid of dull-red ware. It is treated with wash on both the external and internal surface.
SKh. Sq. 18/W, layer (6), Period II.

Sub-type XIIIA

Fig. 26

175. Fragment of knobbed lid of pale-red ware. Red slip is applied on the external surface over which circular bands are painted in black colour. It also contains a potter's mark.
SKh. Sq. 17/T, layer (9), Period II.

176. Lid of dull red-ware. Externally pinkish buff slip is applied over which concentric circles painted in black colour.
SKh. Sq. 18/T, layer (9), Period II.

177. Knobbed lid of red ware with red slip applied on the external surface over which circular bands are painted in black colour.
SKh. Sq. 17/F, layer (4), Period II.

178. Knobbed lid of red ware with red slip applied on the external surface over which circular bands are painted in black colour.
SKh. Sq. 18/P, layer (4), Period II.

Pottery Type XIV

Fig. 27

179. Low squat offering stand with dish of red ware. Both partly broken. Dish and stand are applied with bright-red slip. A black band is painted externally on the rim of the dish.
SKh. Sq. 18/X, layer (8), Period II.

180. Fragment of tall stand (variety A) of dull ware. It is unevenly fired and is applied with red slip.
SKh. Sq. 18/S, layer (7), Period II.

181. Tall stand of red ware with broad base and cyclindrical hollowed stem. It is applied with distinctive red slip over which bands in black colour are painted.
SKh. Sq. 17/W, layer (5), Period II.

182. Low squat stand of red ware with ridge below the dish. It is painted with black bands at the edge.
SKh. Sq. 17/P, layer (4), Period II.

Sub-type XIVA

Fig. 27

183. Fragment of shallow flat dish of red ware vertical neck and out-turned drooping rim. Dull-red slip is applied on both the internal and external surfaces. It is painted in black with bands on the rim and shoulder.
SKh. Sq. 18/X, layer (8), Period II.

184. Fragment of shallow flat dish-on-stand of red ware, bright-red slip on both the internal and external surfaces.
SKh. 18/R, layer (4), Period II.

185. Fragment of shallow flat dish of red ware with flared out rim, chocolate colour slip is applied on the internal surface and externally on the rim. It is painted in blcak with bands. Dish of tall stand, variety 'A'.
SKh. Sq. 18/W, laydr (7), Period II.

186. Fragment of shallow flat dish of dull-red ware, bright-red slip and painted externally in black with a thick band. Dish of tall stand, variety 'A'.
SKh. Sq. 18/T, layer (6), Period II.

187. Fragment of shallow flat dish of red ware, bright-red slip on both the sides and painted in black externally on the rim. Dish of tall stand variety 'A'.
SKh. Sq. 18/X, layer (4), Period II.

Pottery Type XV

Fig. 28

188. Fragment of a shallow plate of red ware evenly fired, unslipped. It is treated with wash and is also painted in black with a single band on the rim.
SKh. Sq. 18/O, layer (6), Period II.

189. Fragment of a shallow plate of dull-red ware, unslipped and unpainted.
SKh. Sq. 18/T, layer (4), Period II.

Pottery Type XVI

Fig. 28

190. Narrow mouthed spherical vessel of light-red ware, flat based and applied with red slip externally.
SKh. Southern Trench,Sq. 18/Z, layer (9), Period II.

191. Same as at No. 190 above but internally corrugated.
SKh. Southern Trench, Sq. 18/Y, layer (8), Period II.

192. Similar to No. 190 and 191 above but painted in black with a band on neck.
SKh. Sq. 18/Y, layer (9), Period II.

Pottery Type XVIII

Fig. 28

193. Fragment of a single ridged vessel of light-red ware, buff slipped and painted in black on the ridge with a band.
SKh. Sq. 18/W, layer (6), Period II.

194. Fragment of a double ridged large vessel of light-red ware, externally red and buff slipped and painted in black with bands on the cordons.
SKh. Sq. 17/W, layer (6), Period II.

195. Fragment of a single cordoned vessel of light-red ware, red slipped and painted in black on the cordon with a band.
SKh. Sq. 17/V, layer (4), Period II.

Miscellaneous

Fig. 28

196. Fragment of a red ware vessel, fine fabric, thin body. Applied externally with red slip wich run over the rim internally. It is painted in black with a band on the neck.
SKh. Sq. 18/X, layer (10), Transitional Period IA.

197. Neck-fragment of a vessel of red ware with medium texture and pale-red slip externally. Painted with a black band on the rim and neck and diagonal parallel wavy lines on the body.
SKh. Sq. 18/T, layer (9), Period II.

198. Fragment of a bowl of dull ware, externally red slipped and grooved like Sarai Khola pottery type VII and VIIA. A neck band is painted in chocolate colour.
SKh. Sq. 17/T, layer (8), Period II.

199. Neck-fragment of a short rimmed vessel of dull-red ware with thick body and vertically incised stroke on the shoulder. A wide band in cream colour is painted on the neck and shoulder bordered by lines of chocolate colour over red slip.
SKh. Sq. 18/S, layer (10), Transitional Period IA.

200. Fragment of short rimmed vessel of light-red ware, red slipped externally and painted in black with a thin band on the rim.
SKh. Sq. 18/W, layer (8), Period II.

201. Fragment of a vertical necked vessel of dull ware, tempered clay, unevenly fired and unslipped. It is wheel-made but resembles in shape our type V.
SKh. Sq. 17/T, layer (7), Period II.

202. Fragment of small dish of red ware, fine fabric, red slipped internally, and painted in black with band on the rim internally. Externally there are two incised loops.
SKh. Sq. 17/T, layer (7), Period II.

203. Fragment of straight necked vessel of light-red ware, medium texture, unslipped and mud sprinkled on the external surface below the shoulder.
SKh. Southern Trench Sq. 18/Y, layer (6), Period II.

204. Fragment of a light-red ware, slightly out curved rim and treated with wash on shoulder and neck and painted in black with band on the rim. Below the shoulder it is treated like No. 203 above.
SKh. Sq. 17/T, layer (6), Period II.

THE PAINTED POTTERY OF PERIODS IA AND II

by

M. Abdul Halim

The pottery assemblage of Period IA and II yielded a number of painted potsherds which seem to belong to our pottery types VIIIA, IX and IXE. The painted designs are generally executed on buff and red slip in black, chocolate or red colours. The red and black colours have also been used simultaneously for decorating certain pottery types.

The painted decorations in black or chocolate colours include crosses, T-shaped designs, cross hatched rectangles, geometric and linar motifs, crossed circles, diagonal wavy lines, fish-scale designs and dots. The biochrome decorations mainly consist of crossed dumbles.

The selected potsherds are illustrated on the following Plates.

Pl. XXIA

Serial No.	*Loucs & Layer*	*Fabric*	*Surface Treatment*	*Decoration*	*Probable Type*
1.	SKh. 18/U, (9)	Red Ware	Buff & Red Slip	Black on Buff	VIIIA
2.	SKh. 17/V, (9)	Red Ware	Buff Slip	Black	IXE
3.	SKh. 18/X, (9)	Red Wzre	Buff Slip	Dark Chocolate	IXE
4.	SKh. 17/Z, (10)	Red Ware	Buff Slip	Black & Red on Buff	VIIIA
5.	SKh. 17/T, (9)	Red Ware	Buff Slip	Chocolate & Black	IXE
6.	SKh. 17/T, (9)	Red Ware	Buff Slip	Black & Red	
7.	SKh. 17/U, (9)	Red Ware	Buff Slip	Chocolate	
8.	SKh. 17/X, (9)	Red Ware	Buff Slip	Chocolate	IXE
9.	SKh. 18/Y, (8)	Red Ware	Buff Slip	Black	VIIIA
10.	SKh. 18/U, (8)	Pale Red	Buff Slip	Red & Black	VIIIA
11.	SKh. 18/U, (9)	Red Ware	Buff Slip	Light Chocolate	

Pl. XXIB

Serial No.	*Locus & Layer*	*Fabric*	*Surface Treatment*	*Docoration*	*Probable Type*
1.	SKh. 17/W, (8)	Red Ware	Buff Slip	Black	VIIIA
2.	SKh. 18/T, (7)	Red Ware	Deep Red	Black	IXE
3.	SKh. 17/T, (7)	Light Red	Buff Slip	Black	IXE
4.	SKh. 18/V, (7)	Red Ware	Buff Slip	Black	VIIIA
5.	SKh. 17/W, (8)	Red Ware	Buff Slip	Black	VIIIA
6.	SKh. 17/W, (6)	Red Ware	Pale-Red Slip	Black	IX
7.	SKh. 16/Z, (6)	Red Ware	Buff Slip	Dark chocolate	IXE
8.	SKh. 18/AA, (6A)	Red Ware	Bright Red Slip	Black	
9.	SKh. 18/X, (9)	Red Ware	Buff Slip	Black	VIIIA
10.	SKh. 17/U, (4)	Red Ware	Buff Slip	Light chocolate	VIIIA
11.	SKh. 17/R, (5)	Red Ware	Buff Slip	Black	VIIIA
12.	SKh. 18/W, (6)	Red Ware	Buff Slip	Black & Red	VIIIA

THE POTTERY OF PERIODS IA AND II WITH INCISED POTTER'S OR GRAFFITI MARKS

by

M. Abdul Halim

At Sarai Khola, a total number of 68 potsherds were recovered bearing pre-firing incised potter's or post-firing graffiti marks. Two of these came from the transitional Period IA, 59 from Period II and 7 sherds from the surface. The potter's marks are incised with sharp instrument and generally occur near the base or on the shoulder of the vessels. Generally, a single mark was incised on one vessel but in one example, more than one have also been incised (scratched) on the shoulder and rim of the vessel. (Table 11, No. 40). The graffiti mostly belongs to our pottery types VII (Fig. 12, No. 94 and Pl. XXIIA, No. 1), IXA (Fig. 18, No. 101 and 106), IXB (Fig. 19, No. 111, 115-120), IXE (Fig. 22, No. 134 and 140) and XIIIA (Fig. 26, No. 175).

The potter's or graffiti marks on the Sarai Khola pottery are essentially vertical, horizontal and oblique strokes, and range from a single stroke to a group of strokes arranged in different manners. Geomatric and stylistic motifs also occur at Sarai Khola pottery which includes cross (Table 11, No. 7) and arrows (Table 11, No. 17).

There is a total number of forty different marks (Table 11) which occur on our different pottery types. Some of the potter's marks on Sarai Khola pottery recall parallels as shown in Table 12 and indicate wide distribution of the similar marks on contemporary sites of Sind, Baluchistan, Iran and India.

In Table 11, the potter's marks as they occur on Sarai Khola pottery are illustrated in a manner to show the development of strokes, from a single to multiple strokes, and their different arrangements.

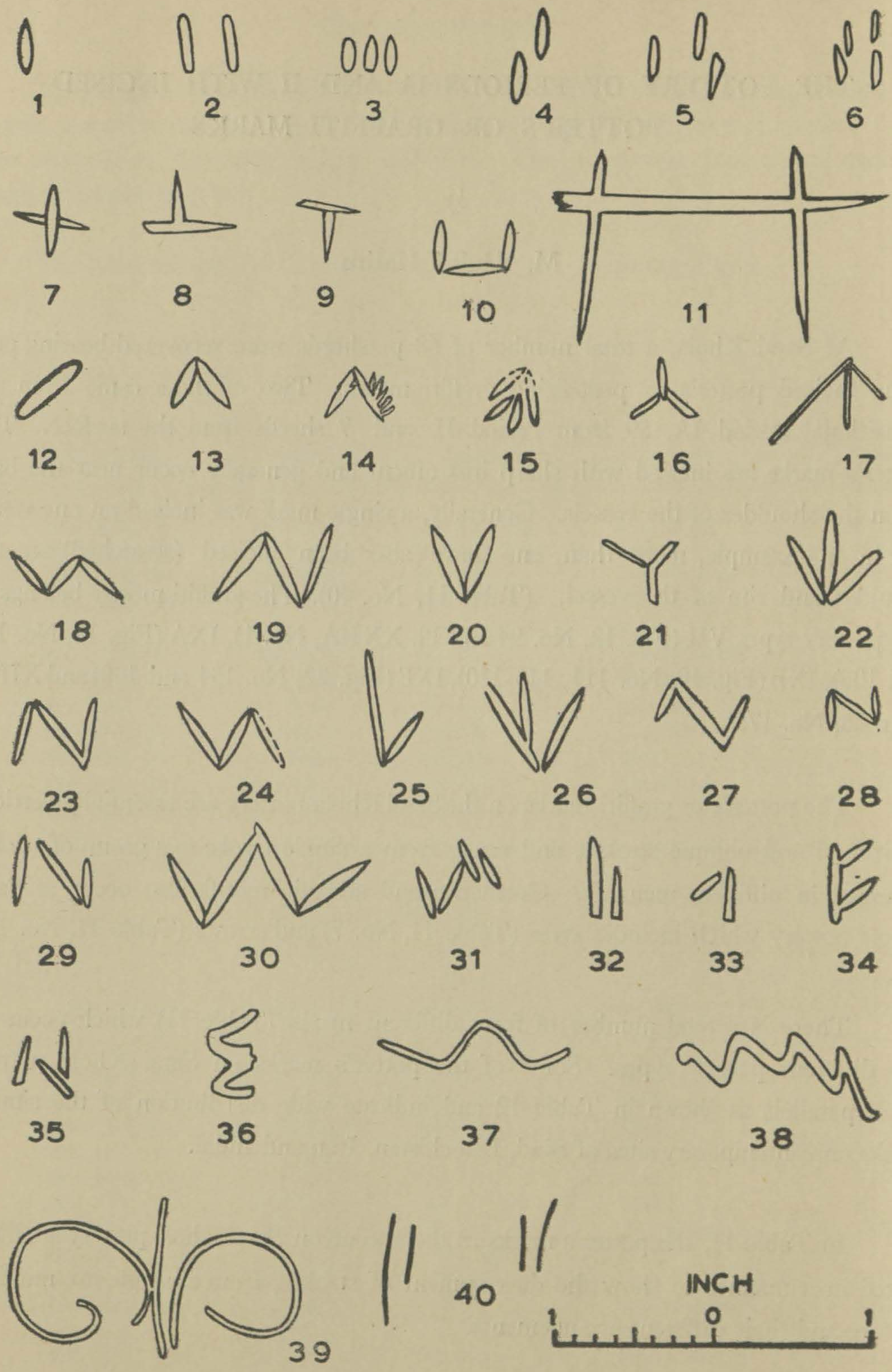


Table 11: Incised potter's marks on Sarai Khola pottery of Period IA and II

Sarai Khola	*Kot Diji**	*Periano Ghundai*	*Quetta*	*Tepe Yahya*	*Rangpur*
1.		Fig. 59, No. C	Pl. 14, No. A	Fig. 18, No. U	
2.		Fig. 59, No. B			
3.					Pl. XXVI, No. 66
			Pl. 14, No. C		
7.		Fig. 59, No. F & G	Pl. 14, No. H	Fig. 15 No. L Fig. 18, No. X	Pl. XXVIIA, No. 42
9.			Pl. 14, No. F		
13.	Pl. XXIV, No. 2				
18.			Pl. 14, No. I		
17.			Pl. 14, No. K		Fig. 47, No. 16 and Pl. XXVI, No. 17
20.		Fig. 59, No. D & E	Pl. 14, No. RR		
36.		Fig. 59, No. I	Pl. 14, No. LL		
22.		Fig. 59, No. K			
28.			Pl. 14, No. J		

Table 12. The comparison of pottery marks from Sarai Khola with the sites of Sind, Baluchistan, Iran and India.

1. Fragment of Pottery Type IX, red ware, red slip, painted in black with band and having a pre-firing incised potter's mark on the shoulder (Pl. XXIIA, No. 3). There are two more sherds from Sq. 18/V, (6) and from the surface with similar pre-firing incised marks.
SKh. Sq. 17/E, (4), Period II

2. Fragment of Pottery Type IXA, red ware, red slip, painted in black and having a pre-firing incised potter's mark on the shoulder (Pl. XXIIA, No. 4 & Fig., 19 No. 120). Three more sherds with similar mark came from Sq. 17/T, (9) (Type IXC), 17/Z, (8) and surface.
SKh. Sq. 18/T, (9), Period II.

3. Fragment of Pottery Type X, red ware, flat base, internally red slipped and having pre-firing incised potter's mark near the base (Pl. XXIIA, No. 5). Two more sherds with similar marks came from Sq. 18/V, (4A) and surface (Type IX).
SKh. Sq. 18/R, (6), Period II.

4. Fragment of red ware, disc base, externally dull-red slipped and having pre-firing incised potter's mark near the base (Pl. XXIIB, No. 15).
SKh. From Surface.

5. Fragment of red ware, flat base, externally light grey slipped and having pre-firing incised pottery's mark near the base (Pl. XXIIB No. 10). One sherd with similar mark came from Sq. 17/V, (4).
SKh. From Surface.

*The references to the sites are: *Kot Diji*, F. A. Khan, 'Excavations at Kot Diji', *Pakistan Archaeology*, No. 2, 1965; *Periano Ghundai*, W. A. Fairservis, *Archl. Surveys in the Zhob and Loralai Districts, West Pakistan*, 1959; *Quetta*, Fairservis, *Excavations in the Quetta valley*, 1956; *Tepa Yahya*, C. C. Lamberg-Karlovsky, *Excavations at Tepe Yaha, Iran*, 1970; *Rangpur*, S. R. Rao, 'Excavation at Rangpur, and other Explorations in Gujarat, *Ancient India*, No. 18-19, 1963.

6. Fragment of pottery Type VII, red ware, externally grooved, painted in black and having potter's mark near the base (Pl. XXIIB, No. 19).
SKh. Southern Trench, Sq. 17/Z, (8), Period II..

7. Fragment of pottery type X, red ware, internally red slipped, painted in black at inner bottom with a circle, and having a pre-firing incised potter's mark externally near the base (Pl. XXIIB, No. 6). Three more sherds with similar mark came from Sq. 17/Z, (9) (Type X), Sq. 17/Y, (7) and Sq. 18/R, (5).
SKh. Sq. 18/Y, (8), Period III.

8. Fragment of potterey type XIA, red ware, internally red slipped and having a pre-firing pottery's mark incised externally near the base (Pl. XXIIB No. 2) externally. A sherd with similar mark came from Sq. 17/U, (8).
SKh. Sq. 18/S, (7), Period II.

9. Fragment of red ware, with potter's mark near the base (Pl. XXIIB, No. 14).
SKh. Sq. 18/E, (5).

10. Fragment of red ware, buff and red slip, painted in black on buff and having a pre-firing incised potter's mark (Pl. 2XXII, No. 20).

11. Type IXB, pre-firing incised potter's mark (Fig. 19, No. 118).

12. Potterey Type IX, pre-firing incised mark (Fig. 19, No. 111).

13. Fragment of pottery type X, red ware, red slipped internally and externally above the base. A pre-firing potter's mark is incised near the base (Pl. XXIIB, No. 12). For similar example, see Fig. 18, No. 101, Fig. 19, No. 116 and Fig. 22, No. 140.

14. Fragment of red ware, treated with wash and having a pre-firing incised potter's mark near the base (Pl. XXIIB, No. 11).
SKh. Sq. 17/Z, (10), Period IA.

15. Fragment of red ware, flat base, grey core and potter's mark near the base (Pl. XXIIB, No. 8).
SKh. Sq. 17/T, (9), Period II.

16. Fragment of pottery type X with potter's mark near the base (Pl. XXIIA, No. 15).
SKh. Sq. 17/P, (6), Period II.

17. Fragment of pottery type VII, potter's mark incised on the shoulder after firing the vessel (Pl. XXIIA, No. 7). Similar mark incised before firing also occurs on a sherd which came from the surface.
SKh. Sq. 18/S, (7), Period II.

18. Fragment of pottery type IXB, externally treated with wash and having potter's mark incised on the shoulder (Pl. XXIIA, No. 6 & Fig. 19 No. 117).
SKh. Sq. 18/W, (7) Period II.

19. Fragment of pottery type VII with potter's mark incised near the base. (Pl. XXIIB, No. 1). A sherd with similar mark also came from the surface.
SKh. Sq. 18/V, (8), Period II.

20. Fragment of red ware, externally treated with wash and having a potter's mark near the base (Pl. XXIIA, No. 8). Similar marks occur on four other sherds came from Sq. 18/Z, (6), Sq. 17/R (7) and 17/T, (9), (Fig. 16, No. 175).
SKh. Sq. 18/W, (6).

21. Fragment of pottery type IXA with potter's mark incised on the shoulder (Pl. XXIIA, No. 2).
SKh. Sq. 17/X, (6).

22. Fragment of pottery type XIA with potter's mark incised near the base (Pl. XXIIA, No. 10). Similar mark also occurs on a sherd from Sq. 17/W, (6).
SKh. Sq. 18/V, (6), Period II.

23. Fragment of red ware with incised potter's mark (Pl. XXIIB, No. 17). Similar mark occur on a sherd from Sq. 18/W, (6).
SKh. Southern Trench, Sq. 18/Z, (6), Period II.

24. Fragment of type X with incised potter's mark on the external surface (Pl. XXIIA, No. 16).
SKh. Sq. 16/Y, (8)k Period II.

25. Fragment of type X with incised potter's mark near the base (Pl. XXIIB, No. 9).
SKh. Sq. 17/T, (6), Period II.

26. Fragment of tyye IXE with potter's mark incised on the shoulder (Pl. XXIIA, No. 13 and Fig. 19, No. 119).
SKh. Sq. 18/V, (6), Period II.

27. Fragment of type IXA with potter's mark incised on the shoulder (Pl. XXIIA, No.1).
SKh. Southren Trench, Sq. 17/Z, (10), Period IA.

28. Fragment of type IXA with potter's mark on the shoulder (Pl. XXIIA, No. 9).
SKh. Sa. 18 U, (7), Period II.

29. Fragment of type X with potter's mark incised on the external surface near the base (Pl. XXIIA, No. 12). Similar mark also occurs on a sherd from Sq. 18/AA (4).
SKh. Sq. 18/Q,(5), Period II.

30. Fragment of red ware, flat base, treated with wash and having a pre-firing incised potter's mark on the external surface near the base (Pl. XXIIA, No. 14).
SKh. Sq. 17/T, (7), Period II.

31. Fragment of a bowl of red ware, internally bright-red slipped and having a potter's mark on the external surface which is treated with wash (Pl. XXIIB, No. 18).
SKh. Sq. 17/V, (8), Period II.

32. Fragment of a bowl, externally red slipped above the base and having a potter's mark near the base (Pl. XXIIA, No. 11)'
SKh. Sq. 18/T, (9), Period II.

33. Fragment of a bowl of red ware flat base, internally rep slipped, externally treated with wash and having a pre-firing incised potter's mark near the base (Pl. XXIIB, No. 13).
SKh. Southern Trench, Sq. 17/Y, Period II.

34. Fragment of red ware, internally red slipped and having a incised potter's mark on the external surface which is treated with wash (Pl. XXIIB, No. 7).
SKh. Sq. 17/X, (8), Period II.

35. Fragment of red ware, flat base, devoid of surface treatment and having a incised potter's mark near the base (Pl. XXIIB, No. 3).
SKh. Sq. 18/W, (6), Period II.

36. Fragment of red ware, flat base, internally red slipped and with a incised potter's mark on the external surface near the base (Pl. XXIIB, No. 5).
SKh. Northeren Trench, Sq. 18/C, (4), Period II.

37. Fragment of type IXA, (Fig. 18, No. 106).

38. Fragment of red ware, flat disc base, externally buff slipped and having a incised potter's mark on the external surface near the base (Pl. XXIIB, No. 4).
SKh. Sq. 18/X, (5), Period II.

39. Fragment of red ware, flat base, devoid of surface treatment and having a incised potter's mark on the external surface near the base (Pl. XXIIB, No. 16).
SKh. Sq. 17/V, (5), Period II.

40. Fragment of type VII (Fig. 12, No. 49) with two graffiti mark on the shoulder and rim incised after firing the vessel.

THE POTTERY OF PERIOD IV FROM SARAI KHOLA

by

M. Abdul Halim

The cultural pattern of Period IV at Sarai Khola is a complete deprature from the cultural traditions of earlier Periods I, IA and II, as demonstrated in the already established stratigraphical sequence and also in the pottery tradition. The earlier periods at Sarai Khola demonstrate the cultural patterns and pottery traditions of late 4th and 3rd millemia B.C. whereas, Period IV is represented by the pottery traditions of the historic period.

The pottery assemblage of Sarai Khola Period IV is mainly represented by an overwhelming majority of red wares tradition and with nominal presence of grey ware. The red ware group is represented by a variety of pottery types which mostly exhibit an even firing and well levigated clay. It is usually treated with red, pale-red slip but specimens devoid of slip also occur. In certain cases, the vessels are treated with a simple wash. Generally, the pottery of Period IV is undecorated and plain but specimens painted in black colour also occur. The decorative designs include horizontally drawn bands on the shoulder and body of the vessels (Fig. 29, Nos. 207, 209 and 214), dots and strokes (Fig. 33, No. 262), loops (Fig. 33, No. 260), leaf motifs (Fig. 33, No. 216), and peacock motifs (Fig. 31, No. 230). Incised decorations on the pottery of Sarai Khola IV also occur and the designs include horizontally incised triangular designs (Fig. 29, No. 211 and Fig. 30, No. 127), and wavy lines (Fig. 30 No. 220). A few examples decorated with the applique mud bands also occur (Fig. 31, No. 226, 228 and 229).

The pottery assemblage of Period IV exhibits a variety of forms which occurring in good frequency include water pitchers, *Chaaties*, *dolies*, storage vessels, open mouthed spouted vessels, pans, tubs and handled pots. Those which occur in less frequency include plain bowls with corrugated sides (No. 232 and 233), lids (No. 234-240), incense burners (No. 242-244), and applied cordoned vessel (No. 256-259). The red ware group of Period IV also includes a fine ware of well levigated, mica-tempered clay treated with lustrous red slip (Pl. XXVIIB, No. 1-2 and Fig. 32, No. 249 and 251).

The frequency of grey ware (Fig. 33, No. 264-267) at Sarai Khola IV is drastically small. Therefore, this group may represent the survival of some earlier pottery tradition in the valley.

The pottery tradition of Sarai Khola IV bears close resemblance with that of Damkot* IV-V. The characteristic pottery from Sarai Khola IV has frequent analogous examples. Our water pitchers at Fig. 29, No. 208, 209 and 213 resemble Damkot V, No. 365, 324 and 381. Other types which have analogous examples are our No. 221, 222 and 224 comparable with Damkot 330 and 401. Our handled vessel No. 226 has close analogous examples from Damkot No. 450 and from Charsada** Nos. 326, 340 and 364. The Sarai Khola IV appliqu ecordoned ware No. 465-259 is comparable with Damkot V No. 440. The painted design on the pottery of Sarai Khola IV are very few. The most important is the peacock motif, as our No. 230 having analogous examples in Damkot II, No. 187, 188, 191 and 194. The spouted vessels as No. 230 and 231 also occur at Damkot III and our No. 231 also occurs at Damkot III & V. A white band on our *chaaties* and storage vessels (Pl. XXIIIA, No. 1 and 2) recalls analogous traditions at Damkot and Charsada.

On the basis of analogous sampling, the pottery traditions of Sarai Khola VI resemble those of Damkot V and Charasda I as represented in its layers 6-4. But the presence of earlier pottery specimen in the assemblage of Sarai Khola Period IV like grey wares (Fig. 33, No. 264-267) and representation of peacock motifs (Fig. 31 No. 230), suggest the survival of earlier pottery traditions, carried on to the seventh and eight century A.D.

The pottery of Period IV was recovered from layer (2) and (1). Since (2A) was the flood level of Period IV, the pottery from the overlying layers (2) and (1) was grouped together and classified into main types of pottery. The vessel forms which are suggestive of their possible function are indicated in the following description.

Since the stratigraphical sequence and duration of Period IV at Sarai Khola do not permit to apply the method to show the development of ceramic industry, all the pottery types along with their variants have been illustrated and described in the following pages.

Fig. 29

205. Water pitcher of dull-red ware with pronounced neck, light-brown slip applied on the external surface and having incised lines on the shoulder.
SKh. Sq. 17/H, layer (2).

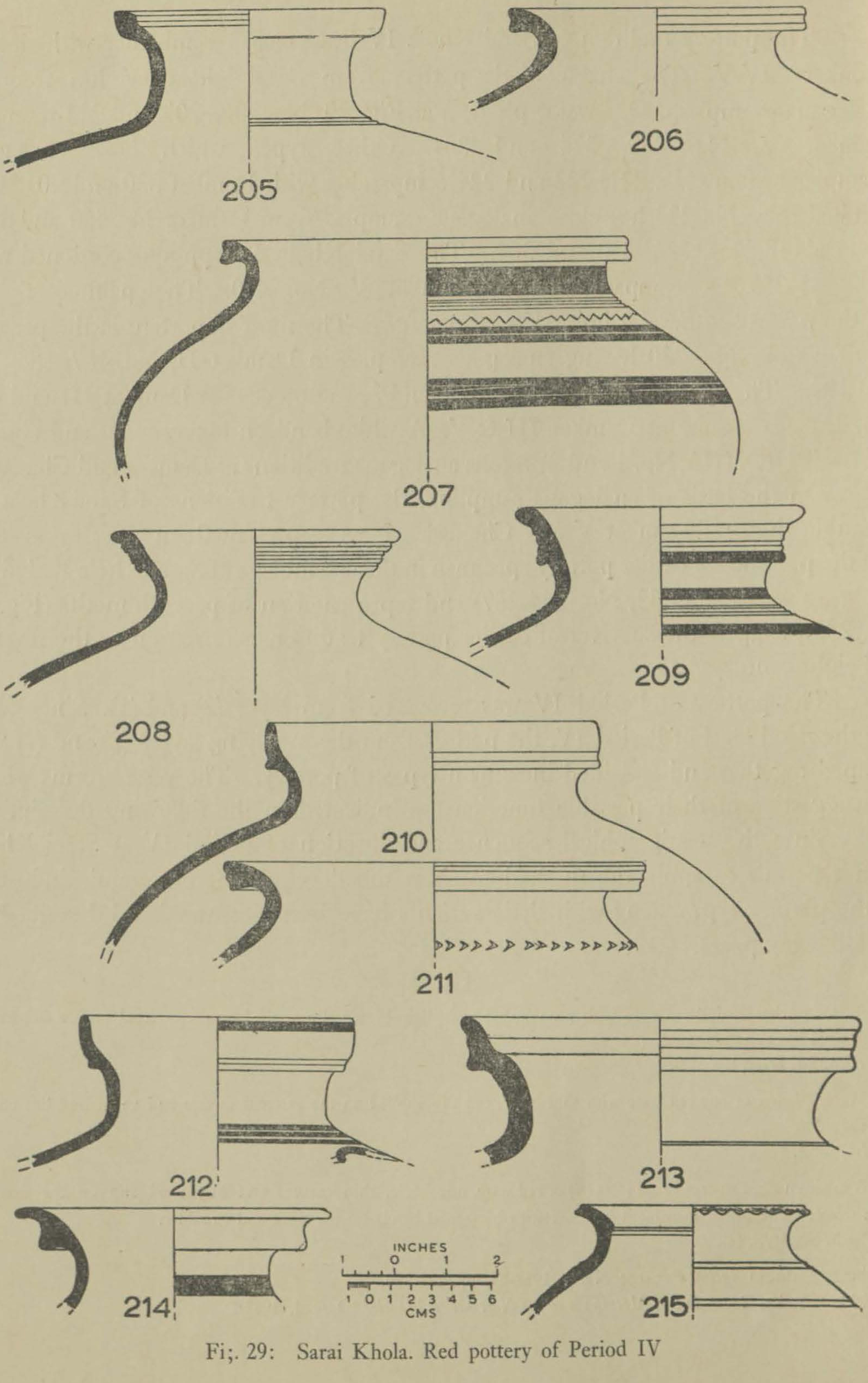
206. Water pitcher of fine red ware with thin body, red slip applied on the external surface and an incised line on the shoulder.
SKh. Sq.

207. A medium sized storage vessel (*Chaati*) of red ware, fine fabric, thin texture and bright-red slip on the externa surface. The picher is painted in black with horizontal bands on the neck and shoulder.
SKh. Sq. 18/S, (2).

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*Abdur Rahman, in *Ancient Pakistan*, No. 4, 1968-69, pp. 192-250.

**R.E.M. Wheeler, *Charsada : A Metropolis of the North-West Frontier* (Oxford, 1962).



Fi;. 29: Sarai Khola. Red pottery of Period IV

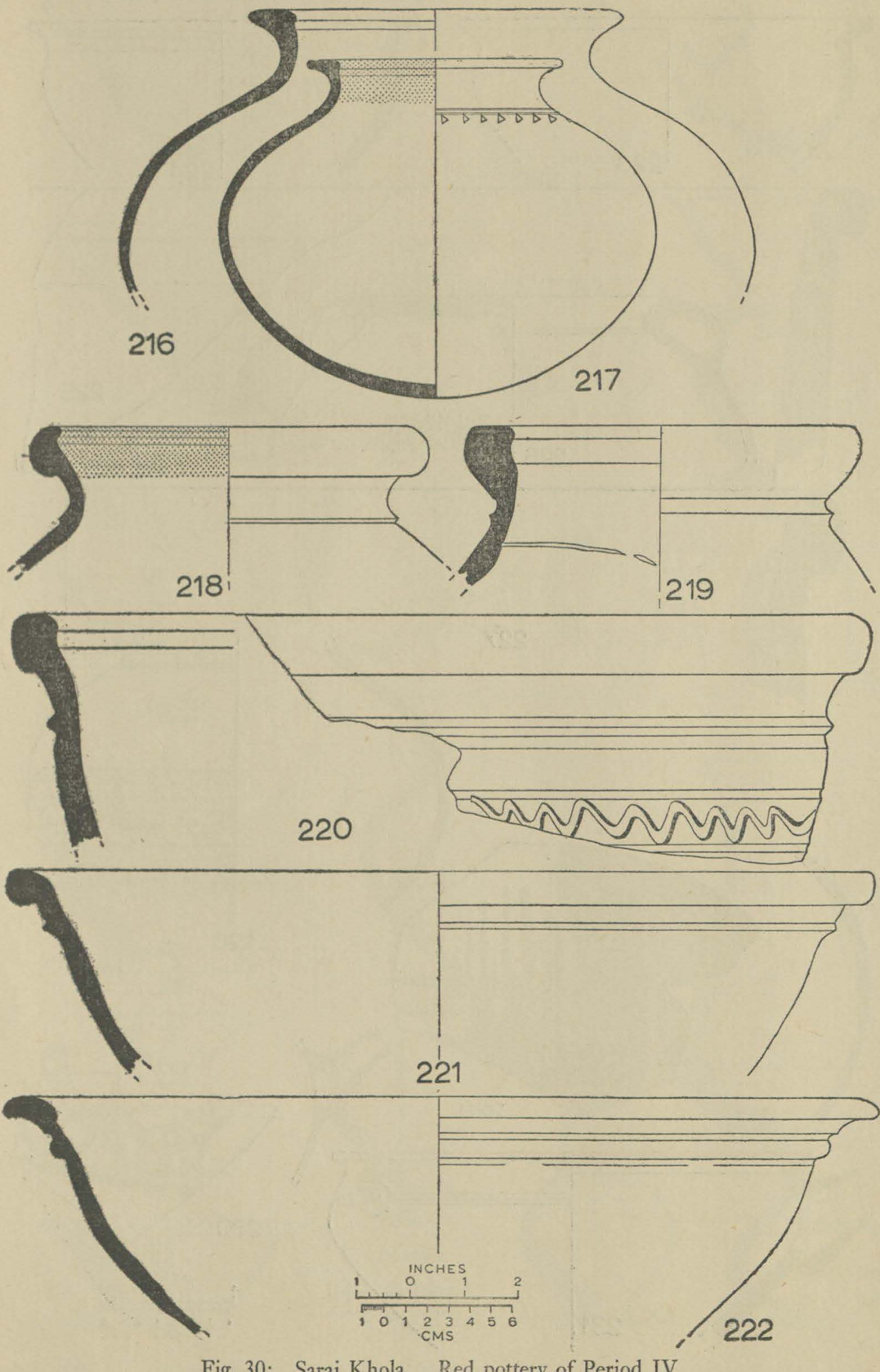


Fig. 30: Sarai Khola. Red pottery of Period IV

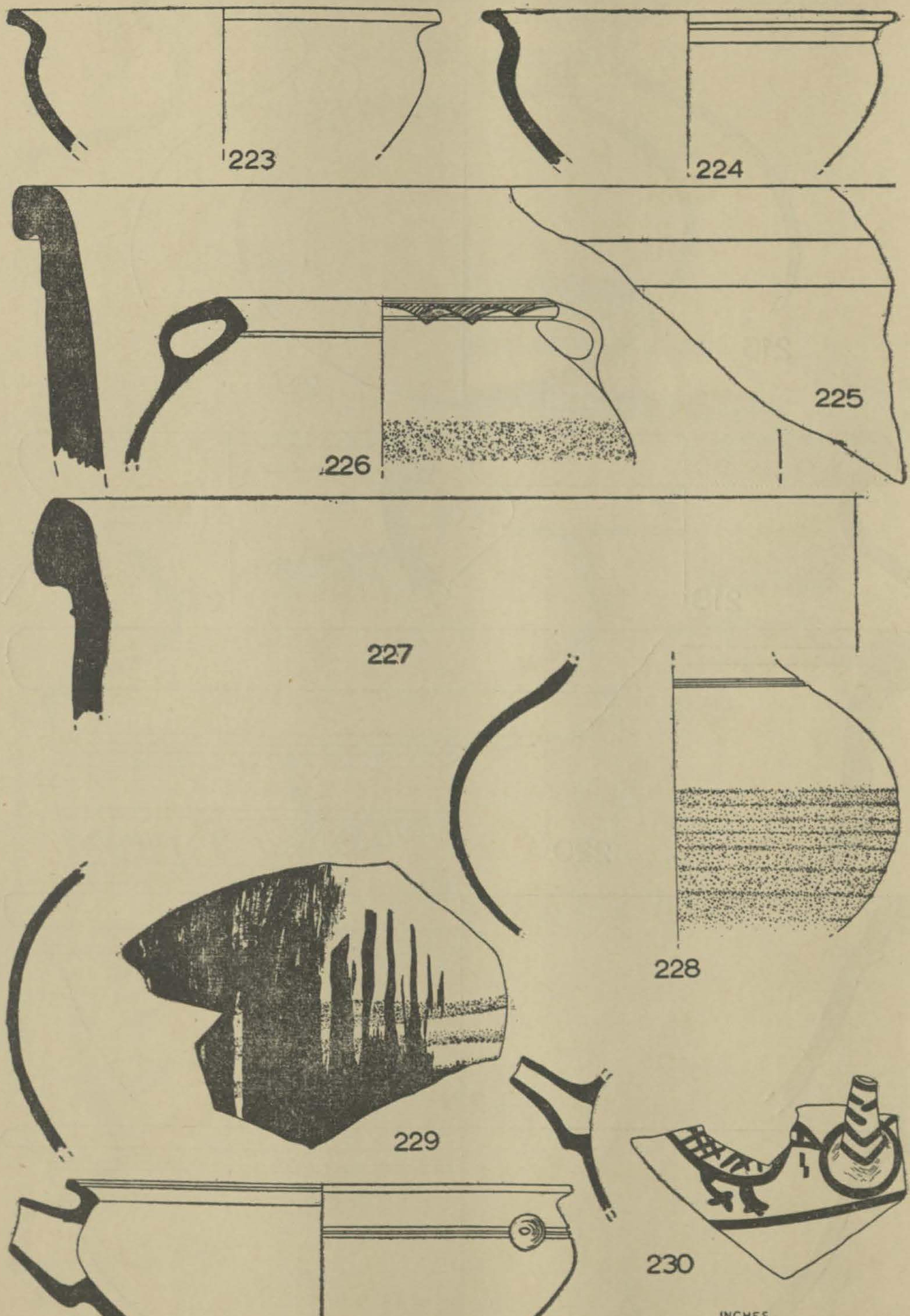


Fig. 31: Sarai Khola. Red pottery of Period IV

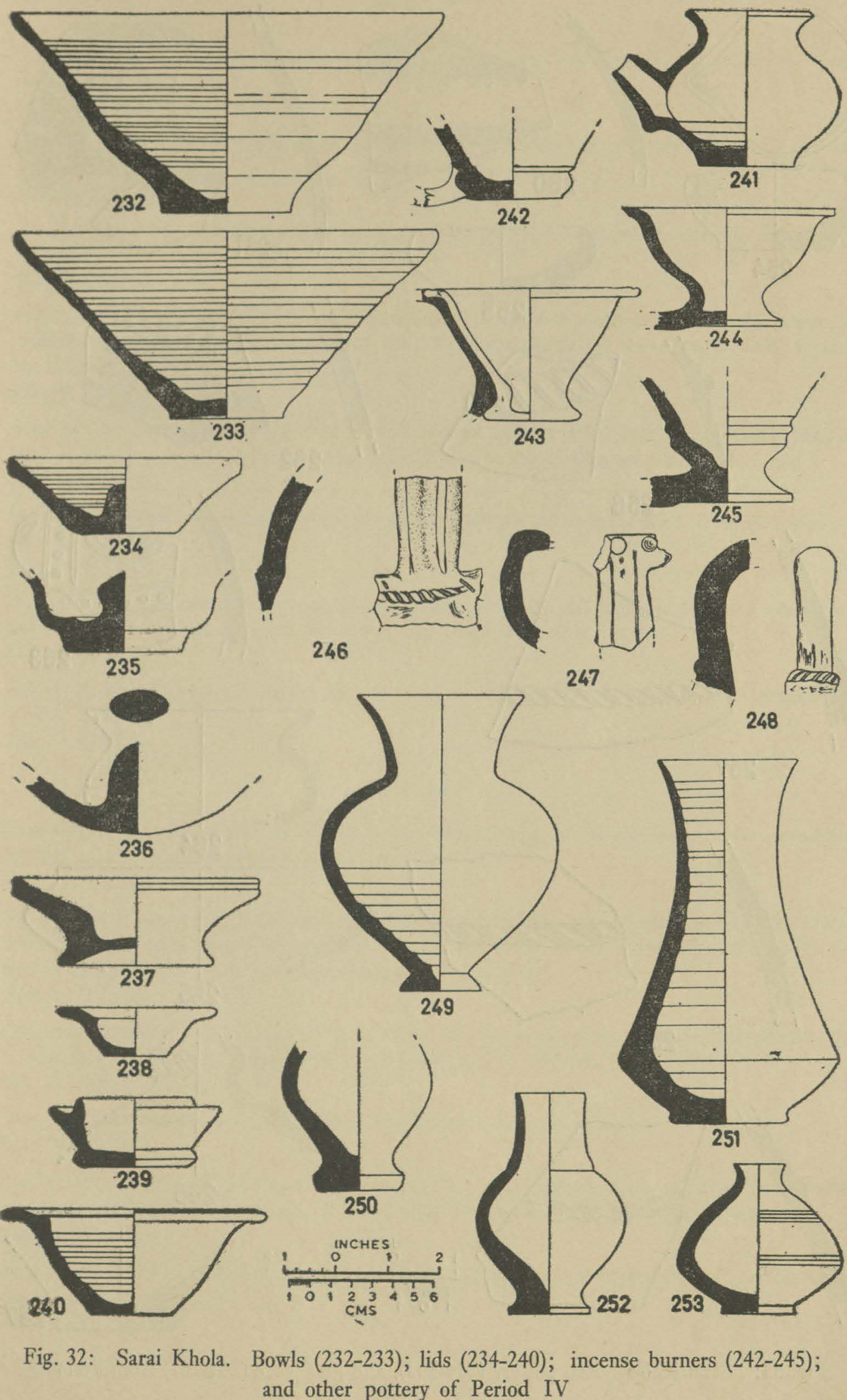


Fig. 32: Sarai Khola. Bowls (232-233); lids (234-240); incense burners (242-245); and other pottery of Period IV

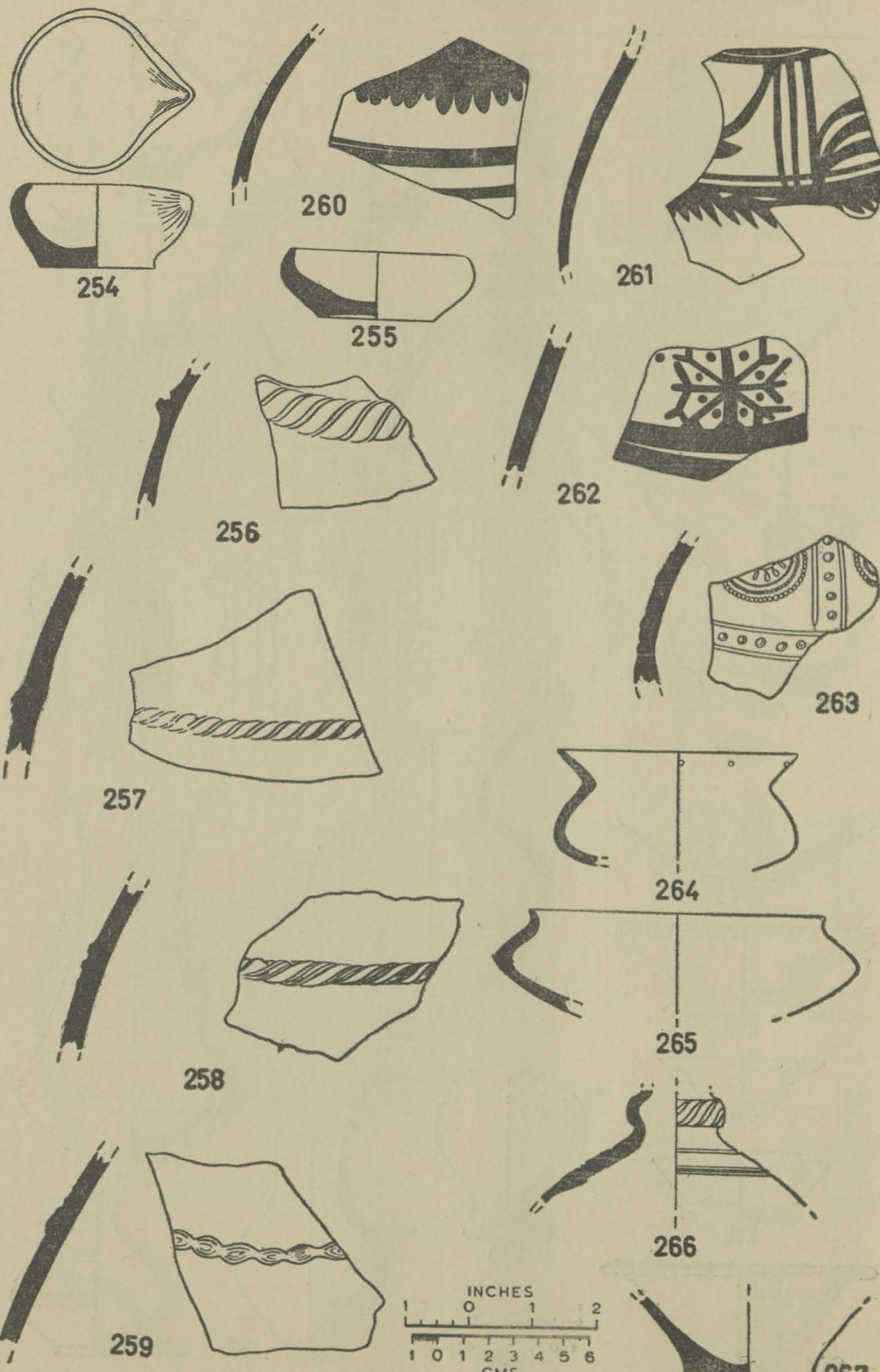


Fig. 33: Sarai Khola. Red pottery (254-263), and grey ware (264-267) from Period IV

208. Water pitcher of red ware, fine fabric, thin texture, externally corrugated rim and applied with red slip on the external surface.
SKh. Sq. 16/R. (2).

209. Same as No. 208 above but with incised horizontal lines on the shoulder and painted in black with bands on the neck and shoulder.
SKh. Sq. 17/P, (2).

210. Water pitcher of dull-red ware with black core, grooved rim and applied with red slip externally and internally on the neck.
SKh. Sq. 16/I, (2).

211. *Chaati* of red ware, thin body, black core, externally grooved rim, horizontally incised triangular pattern on the shoulder. The vessel is applied with bright-red slip on the external surface and internally on the neck. It resembles No. 207 above in shape.
SKh. Sq. 17/V, (2).

212. Same as No. 210 above but with slightly pronouned neck and deep-red slipped. It is painted in black with a band on the rim and three horizontally-drawn parallel bands on the shoulder and a wavy band below.
SKh. Sq. 17/S, (2).

213. Water pitcher of dull ware, medium texture, clay tempered with grit and unevenly fired. It has externally corrugated rim.
SKh. Sq. 11/H, (1).

214. Water pitcher of red ware with black core, out-turned rim and applied with bright-red slip on the external surface and internally on the neck. It is painted in black with a band on the neck.
SKh. Sq. 13/H, (2).

215. *Doli* of red ware with externally rippled rim. It is painted with deep-red slip on the rim and externally on the surface.
SKh. Sq. 12/L, (2).

Fig. 30

216. *Chaati* of red ware, with dull-red slip applied on the external surface. It has soot marks on the external surface Probably, it had a rounded base like at Pl. XXIII, No. 1.
SKh. Sq. 18/S, (2).

217. *Doli* of pale-red ware with rounded base and incised triangular pattern on the shoulder similar to No. 211 above. It is applied with lustrous light-brown slip which is carried over the rim to the internal surface of the neck. It contains patches of soot mark on the external surface (Pl. XXIIIB, No. 3).
SKh. Sq. 18/E, (2).

218. Large storage vessel of dull-red ware with bright-red slip applied on the external surface and internally on the neck. It is elliptical in shape with rounded base. Complete form is Pl. XXIIIA, No. 2).
SKh. Sq. 12/L, (2).

219. Same as at No. 218 above but with flat, externally thickened rim and black core.
SKh. Sq. 17/S, (1).

220. Earthen tub or open mouthed large pan or red ware with a ridge on the shoulder and incised bands bordering a horizontally drawn incised wavy design. It red slipped on both the internal and external surface.
SKh. Sq. 13/L, (2).

221. Open mouthed medium size bowl of red ware, externally ridged on the shoulder and applied with red slip which runs over the externally thickned rim.
SKh. Sq. 12/L, (2).

222. Same as No. 221 above but with out-curved ri m.
SKh. Sq. 18/D, (1).

223. Same as No. 222 above but without the ridge. It is red slipped on both the internal and external surfaces.
SKh. Sq. 18/E, (2).

224. Similar to No. 223 above but reated with wash on both the surfaces and provided with a ridge on the shoulder.
SKh. Sq. 18/E, (2).

225. Large earthen tub of pale-red ware, with vertical sides, thick texture and black core. Treated with wash on both the internal and external surfaces.
SKh. Sq. 12/H, (2).

226. Handled pot of dull ware, clay tempered with fine particles of stone, thin body, dull-red slip on the rim and shoulder. Below the shoulder the vessel is applied with fine muddy bands. The vessel is provided with two handles and the rim rippled at two points. Obliquely incised strokes are on the rippled portion of the rim and on the handles. The vessel bears soot marks
SKh. Sq. 11/H, (1).

227. Same as No. 225 above.
SKh. Sq. 17/O (2).

228. Fragmentary handled pot of red ware with incised lines on the shoulder. The pot is applied externally with red slip and below the shoulder muddy bands are applied.
SKh. Sq. 16/E, (2).

229. Fragment of a handled pot of red ware, externally slipped and applied with horizontal parallel muddy bands. The potsherd contains soot marks.
SKh. Sq. 19/D, (2).

230. Fragment of a spouted vessel of dull-red ware, thin body, externally red slipped and painted in black colour. The decorations are executed in a register on the shoulder of the vessel and include the representation of peacock with with hatched bony.
SKh. Sq. 16/E, (2).

231. Open mouthed spouted vessel of red ware with deep red slip applied on both the internal and external surfaces.
SKh. Sq. 18/D, (1).

Fig. 32

232. Bowl of red ware, medium texture, string-marked disc base, internally corrugated, sharp rim and treated with wash on both the internal and external surfaces.
SKh. Sq. 13/L, (2).

233. Same as No. 232 above but of dull ware. Internally and externally the bowl is corrugated.
SKh. Sq. 18/E, (2).

234. Lid of red ware centrally knobbed and internally corrugated. It is of coarse fabric with flat base.
SKh. Sq. 14/D, (2A).

235. Lid of dull ware, centrally knobbed, coarse fabric and unevenly fired.
SKh. Sq. 16/J, (2).

236. Lid of red ware with central knob, coarse fabric, black core andi nternally treated with wash.
SKh. Sq. 18/P, (1).

237. Lid of red ware, ring base, coarse fabric and treated with wash.
SKh. Sq. 17/P, (2).

238. Lid of red ware with flat base, grey core and red slip.
SKh. Sq. 17/Q, (2).

239. Lid of red ware, flat base, treated with wash on both the side.
SKh. Sq. 17/P, (2).

240. Lid of red ware, black core. It is internally corrugated and treated with wash.
SKh. Sq. 18/D, (1).

241. Flat based small *lota* of dull ware with red slip applied on the external surface (Pl. XXIIB, No. 5).
SKh. Sq. 18/E, (2).

242. Incense burner of red ware with grooves near the base. It is devoid of surface treatment and is provided with a striated handle.
SKh. Sq. 17/L, (2).

243. Incense burner of red ware probably with striated applied handle. It is red slipped on both thei nternal and external surfaces.
SKh. Sq. 16/N, (2).

244. Incense burner of red ware, red slipped on both sides with applied lug handle near the base.
SKh. Sq. Sq. 19/E, (2).

245. Incense burner of red ware, grooved near the base, red slipped internally and externally above the grooves and lugged handle with the base.
SKh. Sq. 18/T, (2).

246. Handle of a red ware with applied obliquely dented cordon. It is externally treated with wash. Probably, it is a handle of an incense burner as No. 243 above.
SKh. Sq. 17/S, (2).

247. Same as No. 246 above but with applied doted designs.
SKh. Sq. 12/N, (2).

248. Lugged handle of red ware with applied dented cordon.
SKh. Sq. 17/S, (2).

249. Vase of red ware, fine fabric, well lavigated, mica tempered clay, ring base, spherical body, flared-out neck with sharp rim. The vase is applied with lustrous red fine slip externally (Pl. XXIIB, No. 1). A number of similar examples were found in Period IV at Sarai Khola.
SKh. Sq. 19/E, (2).

250. Ring based vase of dull ware, treated externally with lustrous brown slip. Probably, the complete shape was similar to No. 252 below.

251. Carinated vase of red ware, fine fabric, mica tempered, well levigated clay, disc base, sharp flaring rim. Externally the vase is treated with lustrous fine red slip. Only one example was found (Pl. XXIIIB, No. 2).
SKh. Sq. 16/H, (2).

252. Long vertical necked vase of dull-red ware, ring base, sharp rim and externally treated with wash.
SKh. Sq. 17/J, (2).

253. Short necked and carinated vase of red ware with dark-red slip applied on the external surface and painted in black with bands (Pl. XXIIIB, No. 4).
SKh. Sq. 17/W, (2).

Fig. 33

254. Oil lamp of red ware, flat base treated with wash and contains soot marks.
SKh. Sq. 14/Q, (2).

255. Small dish or oil lamp of red ware treated with wash on the internal surface.
SKh. Sq. 16/X, (2).

256. Fragment of cordoned red ware, black core and externally applied with red slip.
SKh. Sq. 18/T, (1).

257. Fragment of red ware, red slipped and applied with a cordon.
SKh. Sq. 16/T, (2).

258. Fragment of cordoned dull-red ware, black core and externally applied with dull-red slip.
SKh. Sq. 16/S, (2).

259. Fragment of cordoned red ware, black core, and externally applied with red slip.
SKh. Sq. 17/V, (2).

260. Fragment of red ware, black core, externally red slipped and painted in black.
SKh. Sq. 11/N, (1).

261. Fragment of red ware, thin texture, externally dark-red slipped and painted in black.

262. Fragment of red ware, red slipped and painted in black.
SKh. Sq. 12/L, (2).

263. Fragment of moulded dull red ware.
SKh. Surface.

Grey Wares

264. Fragment of a carinted grey ware, flared-out neck, sharp and perforated rim and externally black slipped.
SKh. Sq. 14/J, (2).

265. Fragment of a carinated grey ware with short beaded neck and sharp rim. It is burnished externally.
SKh. Sq. 14/J, (2).

266. Fragment of narrow necked grey ware with incised horizontal grooves on the shoulder. A cordon is applied on the neck. It is externally black slipped.

267. Fragment of a carinated grey were with short beaded neck and sharp rim. It is burnished externally.
SKh. Sq. 18/I, (1).

Chapter III

CONCLUSIONS

by

M. Abdul Halim

The excavations at Sarai Khola have pushed back the history of Taxila by 3000 years and have also provided a better understanding of the pre-and early Bronze Age cultures of Pakistan. Sarai Khola has revealed an evidence of cultural contacts with the northern regions of China through some typological similarities of its materials with the Burzahom Neolithic culture of the fourth millennium B.C. The excavations have also yielded evidence concerning the beginning of the Iron Age in Pakistan approximately, towards the end of the second millennium B.C., a time, which is thought to have coincided with the advent of the Aryans into South Asia. It seems appropriate to review the results in brief.

The Period I at Sarai Khola belongs to the late Neolithic period, assignable to the late fourth and early third millennium B.C. It yielded handmade, red burnished wares, ground stone tools, microliths and bone points. The material remains of Period I have similarities with the Neolithic cultures of Burzahom in Kashmir and with the Yang-shao Neolithic in North China. Its local variation is reported from the Neolithic levels of Jalilpur I (this Journal, below).

The Period IA, indicating a transitional phase between two major occupations at Sarai Khola, marks the arrival of a peaceful community with highly developed cultural traits. The new arrivals settled on the site of the late Neolithic people.

The Period II at Sarai Khola marks the beginning of Bronze Age cultural traits about the beginning of the third millennium B.C. The Period II brought about a drastic reduction in the number of earlier handmade wares of Period I and several new pottery types were introduced. These new pottery types were all wheelmade with the exception of two types (V & VI). This new wheelmade pottery of Period II, is widely distributed in the Gomal valley (N-W.F.P.), in the Punjab, Sind and Baluchistan. They are found at Gumla, Hathala, Rehman Dheri, Karam Shah in the Gomal valley; Musa Khel, Leiah, Jhang, Pind Nausheri, Khannda, Jalilpur, Harappa and Bhoot

in the Punjab; Kot Diji in Sind, and at six sites in the Zhob and Loralai valleys of Baluchistan, as reported by Dr. M. R. Mughal in this Journal (below). This change in the ceramic industry also coincides with the emergence of a variety of minor objects, like those of copper, stone, and of terracotta female figurines, bracelets and beads etc. A considerable thickness of the occupational deposit of Period II, would suggest a long period of settlement at the site. On the basis of pottery, the Period II at Sarai Khola appears to be contemporary and related with Gumla II-III, Jalilpur II, Kot Diji levels (4) to (16), and Harappa, layers (26) and (26A).

The site of Sarai Khola, after the termination of Period II, remained abandoned for a long time. About 1000 B.C., it was used for the disposal of the dead. This was Period III, marked by a regular cemetery of two phases, designated as 'early' and 'late', superimposed one upon the other. The cemetery of Period III was laid on a regular plan with the graves oriented in east-west direction and in parallel rows. In this cemetery, the male and female burials could be distinguished by their burial modes. The cemetery belongs to a group of people who knew the use of iron and it may probably be associated with the Aryans who appeared in the northwestern parts of Pakistan about that time.

After Period III, the site of Sarai Khola was once again abandoned for a long time until it was re-occupied during the seventh and eighth centuries A.D. This occupation is grouped into Period IV. The ceramic industry of Period IV, has close resemblance with the pottery of Damkot IV-V and Charasda-I. The Period IV at Sarai Khola may belong to the Hindu Shahi period. A few sherds of grey ware were also found, representing the survival of an early pottery tradition of the Taxila valley.

A SUMMARY OF EXCAVATIONS AND EXPLORATIONS IN PAKISTAN (1971 and 1972)

by

M. Rafique Mughal, Ph. D.

(*Plates XXIV—XXXIX*)
(*Figures* 34—40)

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EXPLORATIONS

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The following summary deals with the field works undertaken during the years 1971 and 1972 by the Explorations and Excavations Branch of the Department ot Archaeology and Museums in Pakistan. During this period, excavations were carried out at the prehistoric and protohistoric sites of Jalilpur, Sarari Khola and Zarif Karuna, and at a medieval settlement of Satghara (Fig. 34). In addition to the diggings at selected sites, extensive explorations were undertaken in the Punjab, Baluchistan and Sind provinces. The results of these archaeological field researches are outlined here briefly. The detailed reports on these field works shall be published in due course of time.

EXCAVATION AT SATGHARA

Just as the excavations at Tulamba[1] were prompted by the primary consideration of obtaining a choronological sequence for assigning an approximate date to a number of settlements then being discovered in the central Punjab plain, similar reasons necessitated a limited excavation at Satghara, located 82 miles northeast of Tulamba. The site of Satghara also offered a promise of yielding some material evidence of the late Medieval period (16th to 19th century A.D.). In this way, we hoped to extend the chronological framewrok, as revealed at Tulamba, further by at least three centuries which could provided a basis for future research in this particular period of history.

The name Satghara—meaning "seven houses"—is traditionally associated with the exploits of Mir Chakar Rind, a powerful Baluchi chief of the early Mughal period. He is reported to have built a fort and several public and religious buildings at Satghara. The grave of Mir Chakar is today encolsed by the northwestern bastion of the existing burnt-brick fort in Satghara village which is reported to have been rebuilt in A.D. 1775 (Pl. XXIVA). During the Sikh period, Satghara was attacked

1. M.R. Mughal, 'Excavations at Tulamba, West Pakistan', *Pakistan Archaeology*, Number 4 (Karachi, 1967), pp. 12-152.

and the descendents of Mir Chakar Rind were thrown out of their territory which they had held for centuries. The modern village of Satghara, located within and outside the fort, shows no signs of an ancient habitation. It appears that a large mound located on the western out-skirts of the village marks the ancient site of Satghara, as also attested by the evidence recovered in course of the recent excavation.

The mound is called Satghara Tibba locally. It measures 1900 x 1800 feet and is about ten feet high above the surrounding level (Fig. 35). It is situated ten miles northeast of Okara in Sahiwal district. As a result of disturbance by the local cultivators, large piles of postsherds and brick-bats are lying on the surface. In order to find out the nature of habitation in different parts of the settlement, pottery samples were gathered from the surface of arbitrarily demarcated areas of the mound. The variations in occurence of certain ceramic types indicated in the samples from different areas, strongly suggested that the western part of the settlement was abandoned earlier than the middle part which constitutes the main mound. Moreover, the area represented by seemingly two detached mounds on the northern and southern ends contains rubbish dumps or perhaps industrial waste (pottery kilns ?). Two ancient brick-lined wells located along the eastern edge of the mound are still being used.

The excavation at Satghara was carried out by the present writer during the Summer of 1971[2]. An exploratory trench, measuring 15 x 16 feet, was laid in the middle of the mound., Underneath a mass of fallen debris loaded with burnt brick-bats and constituting our layers (1) and (2), regular structures of burnt-brick associated with an occupation level (3) were brought to light. The size of bricks, being $6\frac{1}{4}-6\frac{1}{2}$x4x$\frac{3}{4}$ inches, corresponds to those used in the ancient fortification walls now surviving in Satghara village. Another structure of burnt-brick appeared which was associated with layers(7) and (6). This size of burnt-brick used in both the structures is identical. The easliest level (10) lying above the natural soil, did not show any sign of structures in the trench. The total accumulation of cultural debris was 16 feet from the existing surface (Pl. XX1VB).

The pottery from Satghara demonstrates a homogeneous character in all levels, though there are stratigraphic differences in the frequency of certain wares. The evidence shows a general uniformity in the cultural material and their continuity through time. Typologically, the pottery from the earliest levels suggests links with the last occupation period at Tulamba which is dated at that site between the

2. Assisted by Mr. Nazir Ahmad Khan and Mr. Tariq Masood.

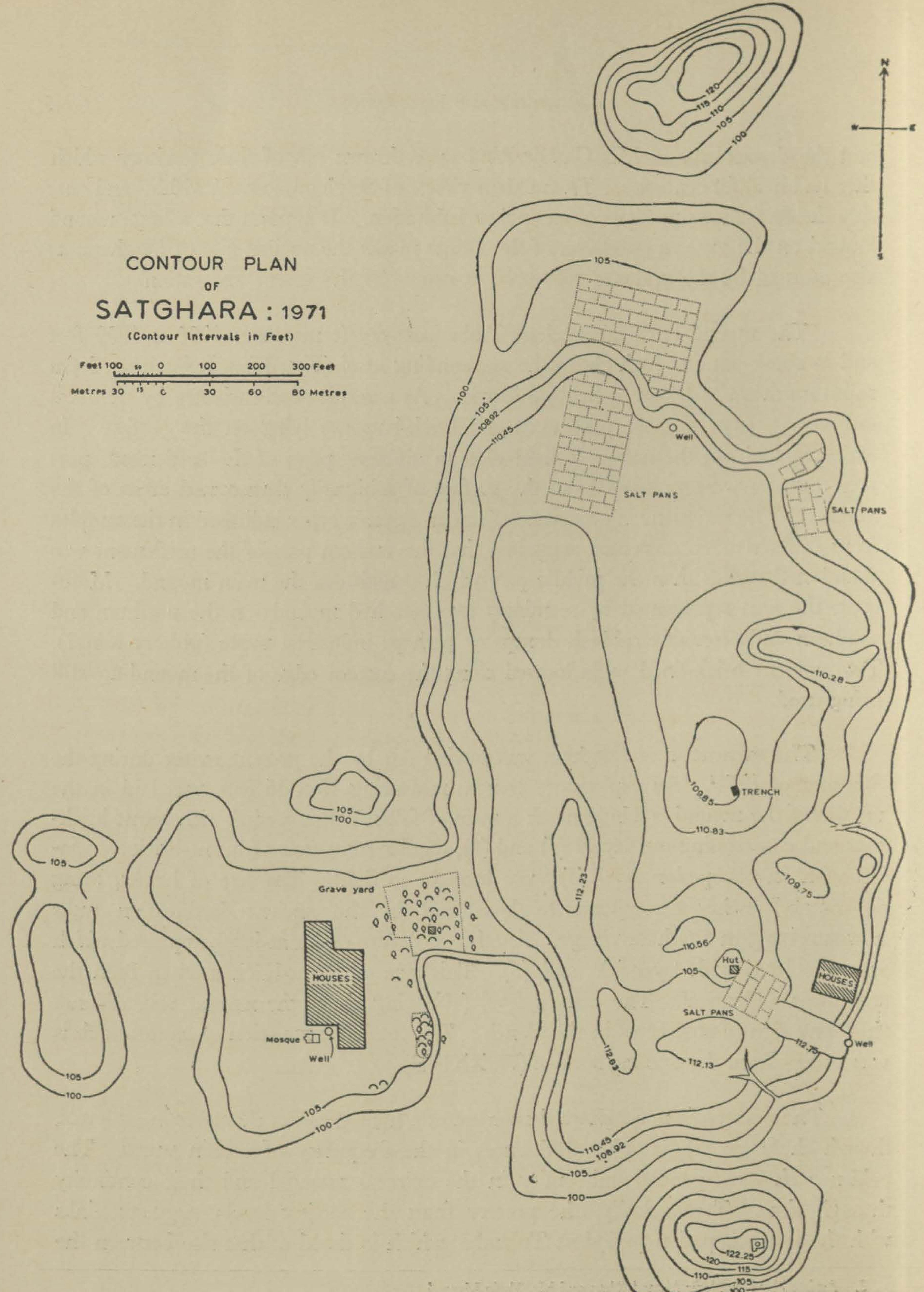

CONTOUR PLAN
OF
SATGHARA : 1971
(Contour Intervals in Feet)
Feet 100 50 0 100 200 300 Feet
Metres 30 15 0 30 60 80 Metres
N
W
E
S
105
100
115
110
120
108.92
110.45
Well
SALT PANS
SALT PANS
110.28
TRENCH
109.85
110.83
109.75
112.23
110.56
Hut
HOUSES
SALT PANS
112.75
Well
112.13
112.83
Grave yard
HOUSES
Mosque
Well
122.25

Fig. 35

14th and 16th centuries A.D. However, many ceramic types at Satghara are different from those known so far in the central Punjab. In the absence of deteable material from the site, the comparable ceramics and antiquities would suggest a relative date of 16th to 18th century A.D. and even later, which may be assigned to the entire occupation of Satghara Tibba. Several pottery vessels recall the shapes of modern earthen wares which are being produced by half a dozen potters of Satghara village.

The pottery is mainly of red colour with few exceptions of grey ware. The principal forms of pottery vessels consist of large pans with out-curved sides and flat base like modern *kunali*, bowls with round or flat base of pottery, lids, large unpainted vessels, oil lamps and narrow-necked vases. The glazed wares were not found.

Among the antiquities found in the trench include several nails of iron, some ivory beads, beads of terracotta and semi-precious stones, and a few copper pieces. Coins were neither found from the surface nor in the excavation[3].

EXCAVATION AT JALILPUR

The prehistoric site of Jalilpur is located about three miles south of the left bank of the Ravi and at a distance of forty-six miles southwest of Harappa in the central Indus valley[4]. The materials collected from the surface in 1963 indicated that the settlement was culturally related with the pre-defence layers (26) and (26A) of Harappa, Kalibangan-I in northern Rajasthan and Kot Diji. Thus, chronologically, it belonged to the Early Harappan period of the Greater Indus Valley assignable to the early third millennium B.C. and earlier. Moreover, the recent excavations at Gumla and Hathala in the Gomal valley, located at the eastern foot of the Sulaiman range[5], at Sarai Khola in the Potwar Plateau[6], and at Siswal and Mitathal[7] in the upper Sarasvati basin between the Yamuna and the Sutlej valleys have provided additional evidence of close interrelationships among the early Harappan settlements of the Greater Indus Valley in which Jalilpur is centrally located. Just as at Sarai Khola, where the mature Harappan cultural phase did not exist, similarly at

3. Sir Alexander Cunningham, however, reported: "Old coins are found in considerable numbers, from the time of the Indo-Scythians downwards". *The Ancient Geography of India I:* The Buddhist Period. (London, 1871), p. 212. Our excavation has yielded nothing of the Indo-Scythian period at Satghara.

4. The discovery of Jalilpur was reported by the present author in *Pakistan Archaeology*, Number 4 (1967), pp. 7-10.
5. A.H. Dani, 'Excavations in the Gomal Valley', *Ancient Pakistan*, Special Number 5 (Peshawar, 1970-71).

6. *Pakistan Archaeology*, Number 5 (1968), pp. 28-40; and M.A. Halim, 'Excavations at Sarai Khola, Part I', *Pakistan Archaeology*, Number 7 (1970-71), pp. 23-89 and Part II in the present volume, above.

7. Suraj Bhan, 'Excavations at Mitathal (Hissar) 1968', *Journal of the Harayana Studies* (Kurukshetra, 1969), Vol. I (1), pp. 1-15, and 'Siswal: A Pre-Harappan Site in Drishadvati Valley', *Puratattva : Bulletin of the Indian Archaeological Society* (New Delhi, 1971-72), Number 4, pp. 44-46.

Jalilpur, the site was not occupied during the Mature Harappan period. Instead, it remained abandoned until the Medieval period. Therefore, we hoped to discover at Jalilpur, a cultural sequence belonging only to the Early Harappan period and then, to relate it with other contemporary settlements. With this objective in view, the excavation was carried out by the author during the months of May and June, 1971[8].

At present, the mound of Jalilpur covers an area of 1200 x 1400 feet with a maximum height of fifteen feet above the surrounding cultivable fields. In this height is included an occupation of the Medieval period which is confined to the southeastern part of the site only. Otherwise, the mound with prehistoric occupation is low and flat in the middle with a maximum height of only five feet (Fig. 36).

Two trenches were laid almost in the middle of the mound where an occupation of the Medieval period did not exist. The first trench, numbered I & II, happened to be on a prehistoric dump and therefore, it was abandoned. The second trench, marked A & B, was laid on an almost flat surface where the presence of mud walls was indicated by the visible difference in the colour of the soil. The trench measured 56 x 60 feet originally, but the area had to be reduced to 46 x 10 feet as our digging progressed. The virgin soil was reached at an average depth of six feet from the existing surface. The total cultural accumulation consisted of six main layers, numbered from top (1), to bottom (6A) (Pl. XXVB). The cultural contents of these layers could be grouped into two main periods of continuous occupation: Period I, the first on the natural soil, was represented by three deposits (6) to (4), and Period II above with two structural phases, IIA (early) and IIB (late) (Pl. XXVB). Some patches of mud floor with pottery *in situ* appeared just few inches below the existing surface which belonged to the structural phase IIB.

The occupation levels assigned to Period I did not reveal any substantial structural remains in the excavated area but the use of mud brick and mud floor is attested. The pottery is mostly handmade and includes thick-textured and tempered pieces of globular vessels with exterior surface coated with a mixture of clay and pottery bits (Pl. XXVIA, 2). The pottery with similar treatment on the external surface is reported from Amri period IA and later, and dated by Radiocarbon to the middle of fourth millennium B.C. A few pieces of pottery with similar technique of surface treatment have also been found from the fourth millennium B.C. levels of Period I at Sarai Khola. The other pottery forms from Jalilpur consist of a small

8. Assisted by Mr. Nazir Ahmad Khan and Mr. Tariq Masood.

percentage of carinated cups and dishes and an abundance of potsherds of unrecognizable shape because of their rounded edges, as if rolled by water action. These are mostly of pale-red colour, light in weight and soft in texture as if under-fired. Their body is so soft that it can be peeled or rubbed off easily, recalling the so-called OCP (Ochre-Coloured Pottery).[9] From the mud floor laid on a soling of lime *kankar*, one rectangular bead of gold sheet with tubular perforation (Pl. XXVIIIA, 7) and several barrel-shaped cylindrical beads of terracotta (Pl. XXVIIIA, 9, 10) were found. The other finds from Period I include terracotta net-sinkers, chert blades, numerous bone points (Pl. XXVIIIA, 12) and a large number of bones of cattle, sheep, goat and gazelle[10], mostly burnt and with sharply cut edges. The evidence of animal bones suggests that the animal meat constituted a part of human diet during Period I. No object of copper or bronze was found in Period I at Jalilpur. It should be recalled that the presence of either copper or bronze is not yet attested even at Sarai Khola I and in the non-pottery levels assigned to Period I at Gumla. However, numerous bone points and chert blades are reported from the earliest levels of these sites, and also from Kile Gul Mohammed I in the Quetta valley, Anjira I-II in Kalat, Amri IA and also from Rana Ghundai I in the Loralai valley, suggesting perhaps, a common level or knowledge of tool technology during the fourth millennium B.C. in the Indus valley and Baluchistan.

The change of material culture from Period I to II was gradual and without a break between the two major occupations of Jalilpur. This feature is unlike the evidence reported from Sarai Khola, where an abrupt change occurred with the beginning of Period II in the so-called "transitional" level IA[11]. Among the plain wares of Period I at Jalilpur, a small percentage of red-slipped wares and those painted with black-and-brown or chocolate-on-red are present, especially in the second and third layers above the natural soil (Pl. XXVIA, 3). These wares show progressive increase in number in the early levels of Period II, in which period they occur mixed

9. There are contradictory and confusing opinions on its identification, exact cultural association and chronological implications, as is reflected through the recent discussions on the subject in, *Puratattva* (Proceedings of the Seminar on OCP and NBP), Number 5 (New Delhi, 1971-72), pp. 5-28; also Krishna Deva, 'Problem of the Ochre-Coloured Pottery', in B.P. Sinha (ed.), *Potteries in Ancient India* (Patna, 1969), pp. 75-82; Dr. B.B. Lal, 'The Ochre-Coloured Pottery', *loc. cit.*, pp. 83-94; and R.C. Gaur, 'The Ochre-Coloured Pottery from Atranjikhera and its Significance', *loc. cit.*, pp. 95-101. Another group of wares also called "Ochre-Coloured", is reported from Sarangpur which in the opinion of the present author is chronologically earlier than the Mature Harappan period and fits into the Early Harappan cultural phase of the early third millennium B.C. For a different view of the exacavator, Suraj Bhan, 'New Light on the Ochre Colour Ware Culture', *The Research Bulletin* (Arts) (Chandigrah, 1967), Number LVII (III), pp. 1-9. On stratigraphic evidence alone, the pottery which looks like the OCP, is earlier than (the Early Harap riod II at Jalilpur and therefore, should be placed in the fourth millennium B.C. pan) Pe

10. Information from Mr. Richard H. Meadow of Anthropology Department, Harvard University, who was shown this collection of bones.

11. M.R. Mughal, 'Introduction to the pottery of Periods I and II of Sarai Khola', in M. A. Halim, 'Excavations at Sarai Khola, part II', *Paksistan Archaeology*, present volume, pp. 34-40.

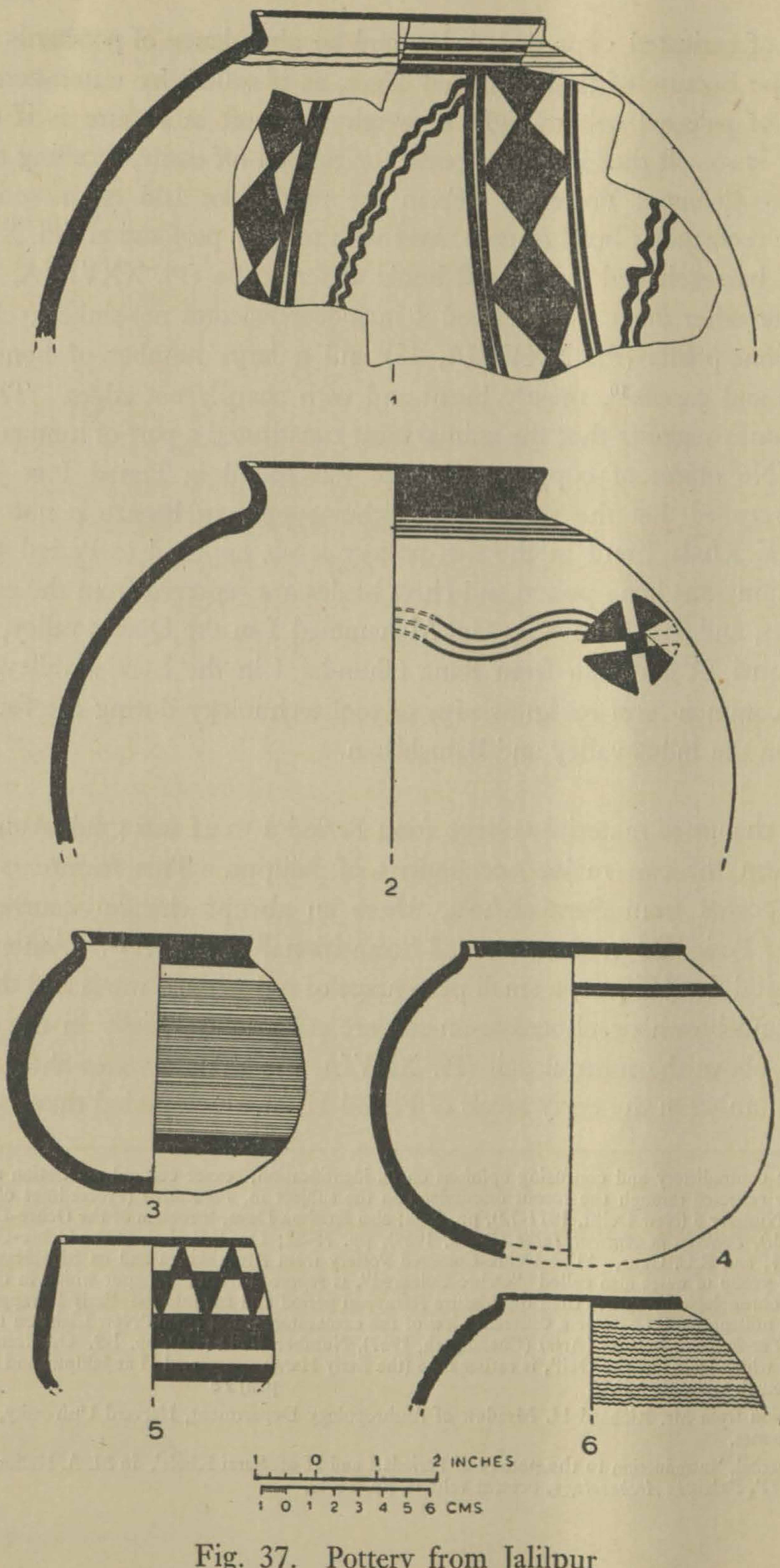


Fig. 37. Pottery from Jalilpur

with the predominently wheelmade wares. But the handmade globular vessels with applique external surface persist through all levels of Period II. Thus, stratigraphically, the ceramic tradition of Period I overlaps with that of Period II at Jalilpur.

In Period II, two structures of mud brick and mud lumps appeared in layers (2) and (1), respectively associated with the first Phase IIA, and the second phase IIB (Pl. XXVB). It should be noted that the sub-division of Period II into two phases A & B, in only structural and not based on significant changes in the material culture recovered from layers (3) to (1) of Period II.

The levels belonging to Period II yielded a great variety of pottery and antiquities which can be compared with the sites of the early third millennium B.C. or of the early Harappan cultural phase throughout the Greater Indus Valley, and with the contemporary sites in northern Baluchistan and also with the regions on further west. Among the principal groups of pottery, some are illustrated on Pls. XXVIA & B, XXVIIB and Figs. 37 and 38. However,some comments are necessary on their chronological and cultural significance.

The painted pottery includes black-on-red (Pl. XXVIB, 1,2; XXVIIB, 2,4,6; Fig. 37,1,3 and 4; Fig. 38,7 & 8), black-on-buff slip or on buff body (Pl. XXVIA, 9-11, 13; Fig. 37, 2 and Fig. 38, 9), and black-and-white wares (Pl. XXVIB, 3, 4-7,11 and 12). The black-on-red pottery, consists of the diagnostic Kot Dijian vessels of globular shape with plain exterior, short neck, and painted with simple black band on the neck and above the base (Fig. 37, 3 & 4), as already familiar to us from the type-site of Kot Diji, Amri, Sarai Khola, Gumla, pre-defence levels of Harappa, Kalibangan-I and also from several sites in northern Baluchistan. The vessels of similar shape and with horizontally grooved exterior, as known from the central and northern Indus valley sites (but not at Kot Diji) also occur in Jalipur II which provide additional parallels with Periano Ghundai (Pl. XXXIV, 2) and Sur Jangal in Baluchistan. Moreover, the flanged vessels with knobbed covers as found in Jalilpur II levels (Pl. XXVIB, 1), are distributed extensively on the early Harappan sites in the Greater Indus valley and Baluchistan. The bichrome pottery painted with black-and-brown or black-and-red (Pl. XXVIA, 1, 4 to 6), is not known from Kot Diji, but it has been reported from Sarai Khola II, Gumla II-III[12], Periano Ghundai and Mundigak.

12. Pl. XXVI-A, 6 c.f. A.H. Dani, 'Excavations in the Gomal valley', *Ancient Pakistan* (Peshawar, 1970-71), Number 5, Fig. 19, No. 133 and Pl. 79, 4. Gumla is located on an important northerly route leading from the Indus plain to Baluchistan and beyond. Therefore, we find a commingling of several cultural traditions at Gumla, as is evident by the ceramic and other materials found in Gumla II, III and IV levels. The whole body of material from Gumla II to IV is clearly linked with the Zhob, Loralai and Quetta valleys of Baluchistan, with the upper and central Indus valley, and with southern Afghanistan and Iranian Sistan.

(*Continued on page* 122)

In the Indus valley, the bichrome pottery with designs different from those of Jalilpur, is usually associated with the Amrian wares of southwestern Sind and is considered to have spread from north (southern Afghanistan) and Turkmenia towards south through Baluchistan[13]. Its discovery at Jalilpur and in the northern Indus valley would suggest that the bichrome pottery tradition also spreads into the Indus plain through the Gomal Pass from perhaps the same source. The painted designs with brown or black-on-buff slip or on buff body, including the very shape of a few vessels from Jalilpur II (Fig. 38, 9), are highly suggestive of links, either direct or indirect, with the ceramic traditions of southern Iran. The "comb incised" ware of Jalilpur II is also comparable with that from several sites in Baluchistan and Iran. Numerous specimens painted with white and bordered with black come from Period II. The combination of white-and-black colours in painted designs on pottery is already familiar to us from the early Harappan levels of Kalibangan-I, at Siswal A, from fifteen other related sites in the Punjab including a part of Haryana. The pottery painted with white-and-black on surface or on light-red slip is sometimes called the 'Sothi' ware in the east central Indus valley.

The mature phase of the Harappan culture is not represented at Jalilpur, but from the levels associated with Period II were found, black-on-red pottery painted with

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(*from page* 121)

It should be pointed out that a critical study of the materials assigned to Gumla II, III and IV, however, reveals a different story and some conclusions drawn from its sequence by Dani, may have to be revised. Seen in the light of the evidence found recently from Jalilpur II and Sarai Khola II, the whole material found in Gumla II and III *togather* fits very well, both chronologically and culturally, into the Early Harappan cultural phase of the Indus valley which preceded the Mature Harappan period. Numerous pottery forms and also other objects from Gumla II & III (and a part of IV) compare precisely with those from Sarai Khola II, Jalilpur II, Kalibangan-I, with the early levels of Harappa and Kot Diji. The non-Indus pottery of Gumla II-III, such as the 'wet' and 'Faiz Mohammad Wares', 'Periano Reserve slip', comb incised, black-and-white, 'Red-on-Red Slip', chocolate/brown and black or black on red wares, are also comparable with the sites of northern Baluchistan dated to the early third millennium B.C.

Judging by most of the artifacts and pottery, Gumla IV clearly demonstrates a continuity of cultural tradition from the early periods. Just as the Harappan traits occur in the early third millennium B.C. contexts in the Kot Dijian levels of Kot Diji, at Kalibangan-I and at Jalilpur (where mature Harappan is absent), the intersecting circular design painted with black-on-red, terracota 'cakes' and perforated wares, also appear in Gumla IV in association with the early materials. The characteristic Indus script and seals are absent at Gumla, just as these are not yet reported from the sites of the early Harappan period. The appearance of such (mature) Harappan-like traits does give us a point in time when these elements had emerged or were appearing.

Professor A.H. Dani thinks that the settlement of Gumla III ended violently, followed by an occupation by the Harappans. Ironically, the continuity of cultural materials as evidenced in Gumla II to IV levels contradicts such as assumption. Dani compares the stratigraphy of Gumla with Kot Diji, where the Kot Dijian occupation is reported to have ended in fire. But, a recent detailed analysis of the antiquities found in the citadel mound of Kot Diji, under preparation by the present author, clearly demonstrates a cultural continuity throughout. The *only* exception is with the female figurines and steatite seals which do not occur in the Kot Dijian levels. Otherwise, *all* categories of objects from the mature Harappan levels (1) to (3D) are present in the early Harappan (Kot Dijian) levels, namely, stone blades, cores, balls, pestles, grinding stones; terracotta 'cakes', cones, bangles, bull figurines, cart-frames and wheels; copper objects; shell bangles and other objects; and beads of agade, paste and carnelian. Moreover, like Gumla, there is a continuity of many pottery forms between the lower and upper levels of Kot Diji—an important fact which is generally overlooked by most scholars. Whatever meaning may be attached to the "burnt" level at Kot Diji (and at Gumla), there is no evidence to suggest a break in the material culture. The visible change in ceramics and their standardization, and the appearance of new types of objects like seals, female figurines etc., in the mature Harappan levels of Kot Diji, have to be explained in context of the process of urbanization in the Indus valley.

13. G.F. Dales, 'A suggested chronology for Afghanistan, Baluchistan, and the Indus valley', in R.W. Ehrich (edt.), *Chronologies in Old World Archaeology* (Chicago, 1965), p. 263.

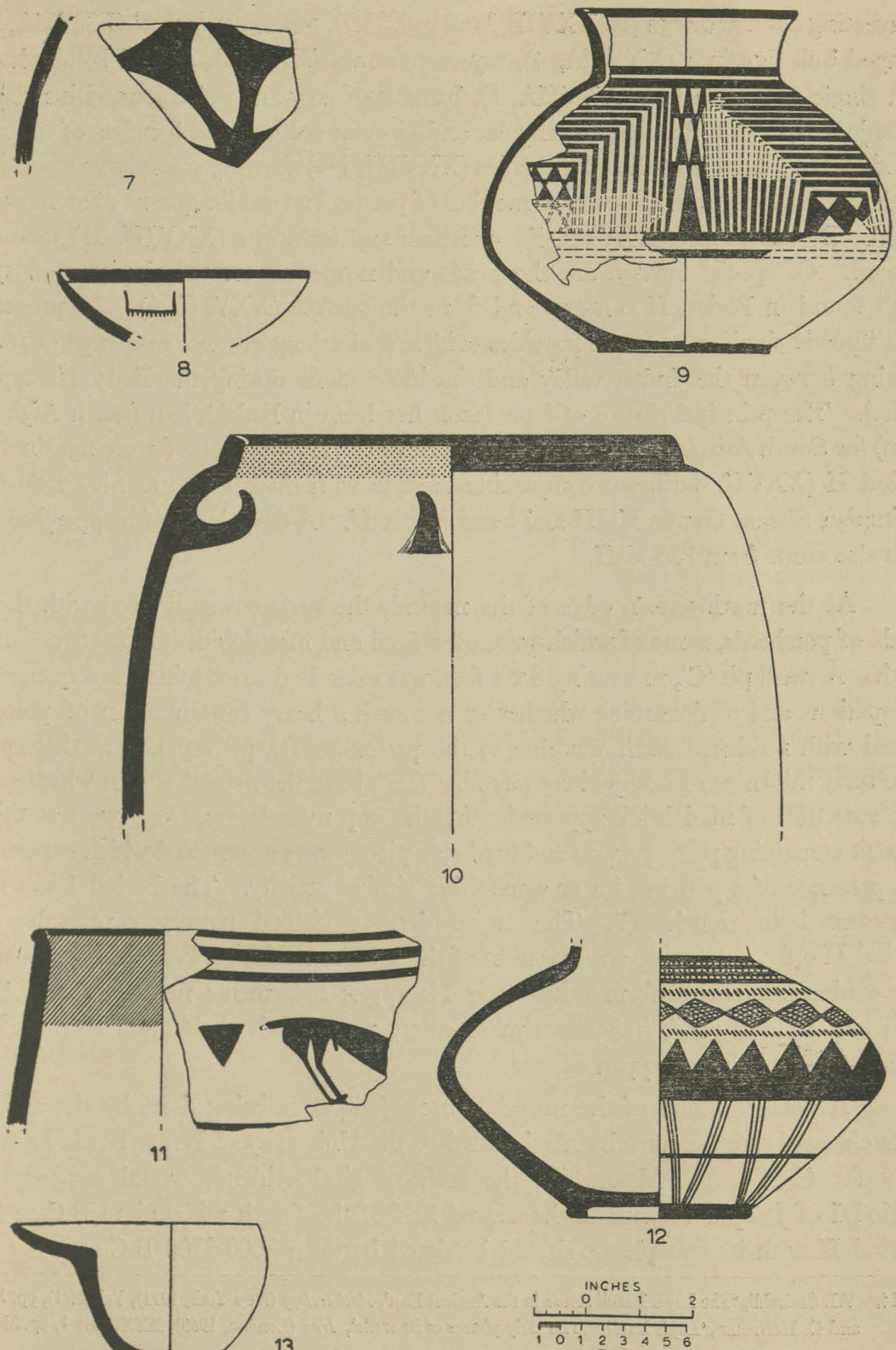


Fig. 38. Pottery from Jalilpur 7-9; Sarai Khola 10; Rana Ghundai 11-12; and Dabar Kot 13.

intersecting circular design (Pl. XXVIB, 2and Fig. 38,7), terracotta 'cakes' (XXVIIA, 3), humped bull figurines (XXVIIA, 4), toy-cart frames (XXVIIA, 2) and solid wheels with single or double hub (XXVIIA, 1), bangles of grey and red colour, either single or conjoined, with traingular, rectangular and circular section, and bangles of faience and shell. In addition to the chert blades (XXVIII, 1-4) showing secondary retouching on their glossy edges, chert cores, a number of pestles and saddle-querns of stone were found. Beads of agate (XXVIII, 5), carnelian and terracotta (XXVIII, 11) were recovered. Of special interest are the beads and numerous unworked pieces of lapis lazuli found in Period II contexts and from the surface (XXVIII, 6). Its presence at Jalilpur is significant, for, it provides evidence of a long distance exchange or trade existing between the Indus valley and outside regions during the Early Harappan period. The principal source of lapis lazuli has been in Badakhshan (north Afghanistan) for South Asia and for the entire Near East[14]. The terracotta female figurines of Period II (XXVII, 8-10) are comparable in style with those found at Shar-i Sokhta in Iranian Sistan, Gumla II-III and Sarai Khola II. A few pieces of copper/bronze rods also come from Period II.

At the northwestern edge of the mound, the surface was littered with thousands of potsherds, some of which ware over-fired and mixed with lumps of reddened earth. A small pit 'C', measuring 8 x 4 feet, was excavated to examine the sequence of occupations and to determine whether or not such a heavy concentration of pottery mixed with reddened earth was due to the presence of a pottery kiln at that spot. The total thickness of occupations was nine feet above the natural soil in which only one structure of mud brick appeared. In the top most layers, over two feet thick deposit containing pottery waste and fired clay pieces was encountered which suggested the presence of a pottery kiln or some other similar activity. The Period I was not represented in trench 'C'. The entire deposit yielded pottery comparable to Period II only, suggesting an expansion of the settlement during Period II. Already, the evidence available from other early Harappan settlements namely, Amri, Kot Diji and Kalibangan-I, indicates similar enlargement of the habitation areas before the maturity of the Harappan culture.

A detailed study of the materials from Jalilpur is being done by the author. The charcoal samples have been submitted to the University of Pennsylvania Laboratory for C-14 tests. Meanwhile, the archaeological evidence would suggest that Period I of Jalilpur belongs to the second half of the fourth millannium B.C., while Period II with its two phases should be dated between 3000-2500 B.C.

14. V.I. Sarianidi, 'The Lapis Lazuli Route in the Ancient East', *Archaeology* (New York, 1971), Vol. 24(1), pp. 12-15; and G. Herrmann, 'Lapis lazuli: The early phases of its trade', *Iraq* (London, 1968), XXX, part 1, pp. 21-57.

EXCAVATION AT ZARIF KARUNA

Another cemetery site resembling those of Swat and Dir, and associated with the "Gandhara Grave Culture" of the second millennium B.C. and later, was accidently discovered in the Peshawar plain, about 18 miles northwest of Peshawar and on the road to Warsak near the village of Zarif Karuna. The site appears to have occupied a large area, 1320 x 800 yards originally, but it has been badly damaged due to the erosion by a hill torrent and by the local cultivators. In order to retrieve materials from the disturbed area and also from the stratified contexts, excavation at the site was carried out in November 1971 by Mr. M. Abdul Halim, assisted by Mr. Gulzar M. Khan. Along with the excavation, 12 graves with their materials were also salvaged. In all, 45 graves were exposed. On the stratigraphical evidence, four types of burials, superimposed one above the other, could be differentiated. The lowermost or the earliest type, represents single individuals buried in inflexed position with grave goods (Pl. XXIXA & C), like those discovered in Period I at Timargarha in Dir. Multiple burials with funerary objects mark the second type. In the cremation burials of the third type, human bones and ashes were placed in large urns and buried with the grave goods (Pl. XXIXB). Another phase of the Zarif Karuna cemetery is represented by the burials of un-burned fractional bones.

The grave chambers are made of stones and the floors are occasionally paved with stone slabs. Two rings of stones, one above the grave chamber and the second near the surface, mark the presence of graves. In the method of construction and modes of burials, these graves resemble those of Timargarha (Period I to III) and of the Swat valley (Period V-VII).

In addition to the funerary pottery of red and grey colour (Pl. XXVIIIB), terracotta female and bull figurines, and personal ornaments of bone, silver, gold and stone were found. The matterials from Zarif Karuna are comparable with those from Dir and Swat valleys where they are dated by Radiocarbon and on typological grounds, to the middle of the second and the early first millennium B.C. Both Prof. A.H. Dani and Dr. G. Stacul have drawn parallels of the grave materials as found in northern Pakistan with those from several sites of Iran namely, Hissar IIB to IIIC, Shah Tepe IIb, Tureng Tepe, Marlik, and even further west, with Hasanlu V to IIIA[15]. These comparsions may lose their chronological significance and also cultural-historical implications in view of an obvious 'hiatus', of half a millennium

15. A.H. Dani (edt.), 'Timargaha and Gandhara Grave Culture', *Ancient Pakistan*, No. 3 (Peshawar, 1967), pp. 43-45; G. Stacul, 'Excavations near Chaligai (1968) and the chronological sequence of protohistorical cultures in the Swat valley', *East and West* (Rome, 1969), Vol. 19(1-2), pp. 44-87; and, 'The Grey pottery in the Swat valley and the Indo-Iranian connections (c.1500-300 B.C.)' *East and West* (1970), Vol. 20 (1-2), pp. 92-102.

or less, between the end of Hissar IIIC (1841±65 B.C.) and the beginning of the 'Early Iron Age' (1400 B.C.) on the Iranian plateau[16]. Thus, the theories built upon such parallels may call for reconsideration.

EXCAVATION AT SARAI KHOLA: THE FINAL SEASON OF 1972

The excavations at Sarai Khola were carried out for four seasons between the years 1968 and 1971 and the results have already been reported in the previous and current issues of this Journal. However, in view of the new evidence discovered at Gumla and Jalilpur in 1971, the stratigraphical position of certain materials at Sarai Khola and especially, the nature of change as reflected in the material cultures of Periods I and II required re-checking and if possible, further elaboration. It was also necessary to study the physical environment of the Taxila valley in which Sarai Khola was located. The material relics discovered at Sarai Khola and the settlement pattern which was emerging as a result of exploration of the surrounding area, called for a fresh look on the whole evidence for cultural reconstruction.

The Department of Archaeology and Museums, invited Professor Ahmad Hasan Dani of the University of Islamabad for collaboration with the Department, and the excavations at Sarai Khola were resumed for the fifth season[17]. New trenches were laid on the western side of the mound to connect the already excavated area and for re-checking the stratigraphical position of various artifacts. As a result, the sequence of occupations already established at Sarai Khola from Period I to IV was fully confirmed. Due to the limited area excavated, not all categories of the ceramic and non-ceramic materials, reported in this issue of the Journal, were found but whatever was recovered, it was already known. There was, however, one minor exception in the pottery of Period II. A Kot Dijian vessel has four lugs on the inner side of the rim which look like hooks with ends turned up (towards the mouth) in such a manner that the vessel cannot be suspended with a string or rope (Fig. 38, 10).

On present evidence, the earliest cultural stage at Sarai Khola (Period I) seems to be peculiar to the Potwar Plateau. With the discovery of identical materials from another site, Jhang (pp. 131-32), this stage assumes significance. The preceding stages of material culture for example, Mesolithic and earlier, have yet to be properly defined and reconstructed meaningfully other than on mere technological terms.

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16. C.H. Bovington, R.H. Dyson, A. Mahdavi and R. Masumi, 'The Radiocarbon Evidence for the Terminal Date of the Hissar IIIC Culture' (in press). Information kindly sent by Professor R.H. Dyson.

17. In addition to Prof. A.H. Dani, the team included Mr. Ahmad Nabi Khan, Mr. M. Abdul Halim and Mr. Gulzar M. Khan.

Within the time-range of the fourth millennium B.C., as suggested by the materials of Period I at Sarai Khola, fall different kinds of materials revealed in ecologically different areas, for example, at Jalilpur I and Gumla I, respectively in the central Indus plain and the piedmont plain. During Period II, Sarai Khola, despite its location in the Plateau, became an integral part of the cultural development of the Indus plain. Thus, together with other contemporary settlements, Sarai Khola II also constituted an early developmental stage of that cultural phenomenon which climaxed in the form of the Indus Civilization during the succeeding period. The reasons for the absence of the mature phase of the Harappan culture in the Potwar Plateau are not yet fully known. However, this area did share the fortunes of the later periods, as attested by the cemeteries of Period III comparable in time perhaps, with that of Gumla VI, and by the materials of Period IV which seem to be widely distributed in the Taxila valley and elsewhere in northern Pakistan.

EXPLORATION IN CENTRAL PUNJAB: SAHIWAL DISTRICT

Along with the excavation at Satghara, a number of ancient sites of the Medieval period were recorded. It was observed that the ancient pattern of settlements almost duplicated that of modern villages in the Punjab plain, a feature which was also demonstrable around Tulamba in Multan district, located 82 miles southwest of Satghara. It was considered necessary to confirm this feature of the Medieval settlement pattern in yet another area. Thus, a small area around Arifwala town, lying between Satghara and Tulamba was selected for an intensive survey. Arifwala is located 26 miles south of Sahiwal on the vast cover plain of the old course of the Beas river. The survey was initiated and directed by the present author in the month of April 1971. No prehistoric site was discovered in these small areas. The dates assigned to the sites that are listed below are based on the ceramic evidence alone with reference to the chronological sequence of Satghara (above, p. 114) and Tulamba (*Pakistan Archaeology*, No. 4,1967, p. 27). For ready reference, the chronological sequence of Tulamba is repeated below:

Period	VA	A.D. 1500 and later
	V	A.D. 1400—1500
	IV	A.D. 1200—1300
	III	A.D. 700—1100
	IIB	A.D. 500— 600
	IIA	A.D. 300— 400
	II	A.D. 200 to 1st century B.C.
	I	500 to 100 B.C. (earliest)

It is, however, pointed out that only the surface collections were used to fix an approximate time-range for each site because test diggings were not carried out at any site.

1. *Boduwala Tibba*

Location: Four miles southwest of Satghara, about 1000 yards south of Chak Dhani Ram, and west of the *kucha* (dirt) road.

Size: A low mound, 5 feet high, 378 feet North-South and 270 feet East-West.

Cultural association: Satghara, early levels; about 16th century A.D and later.

2. *Chak* 18-1*R* (*Manakwala*)

Location: Two mils southeast of Satghara and half a mile south of the village of Manakwala.

Size: 486 feet North-South, 216 feet East-West, and about 9 feet high.

Cultural association: Tulamba Period III and IV, 8th-14th century A.D.

3. *Bundgarh* (*Chak* 38-2*R*)

Location: Between milestone 3 and 4 on Okara-Lyallpur road on the east,and to the north of Bungarh village.

Size: 324 feet East-West, 296 feet North-South, and 8 feet high.

Cultural association: Satghara, about 17th-18th century A.D.

4. *Chak* 63-*EB*

Location: One and a half miles east of Arifwala, between the metalled road and Lodhran-Kasur railroad, and southeast of Chak 63-EB.

Size: A low mound about 4 feet high, 98 feet North-South and 90 feet North-West.

This mound is being destroyed by the local cultivators. The surface is covered with many burnt-bricks, measuring 8x7x1 inches.

Cultural association: Satghara, 16th-18th chntury A.D.

5. *Chak* 19-*EB*

Location: Two and a half miles east of Arifwala and south of the metalled road. A water channel runs on its easten side.

Size: 430 feet North-South, 410 feet East-West, and 6½ feet high.

There is very little pottery on the surface. It is covered by modern grave-yard. The pottery samples turned out from the mound are lying on the graves.

Cultural association: Tulamba Period III to IV A and Srtghara. The site reyresents a long period from 8th to 17th century A.D.

6. *Chak Karam Shah*

Location: About three miles southeast of Arifwala and north of Chak Karam Shah village.

Size: 350 feet North-South, 200 feet North-West, and 8 feet high.

The site is entirely occupied by the graves.

Culutural association: Satghara, 16th-18th century A.D.

7. *Chak Mohammad Nawaz*

Location: Over two miles North-Northeast of Satghara and west of the *kucha* (dirt) road.

Size: 432 feet North-South, 378 East-West, and 12 feet high. Modern graves occupy its northern foot.

Cultural association: Satghara, 16th-18th century A.D.

8. *"Estate" Tibba*

Location: One and a half miles southeast of Satghara, one mile northeast of Chak 18-1R (above No. 2), and west side of the Satghara—Renala Khurd road.

Size: 240 feet North-South, 324 feet East-West, and about 7 feet high.

Cultural association: Tulamba Period III, 8th-12th century A.D.

9. *Haiderwala Tibba*

Location: One and half miles east of Satghara, four and a half miles northwest of Renala Khurd and on the road to Satghara.

Size: An almost circular mound, 440 feet in damater with a height of 11 feet. The mound has been cut into two parts by a water channel.

Cultural association: Tulamba Period III and IV, 8th-14th century A.D. There are suggestions of yet an early occupation but could not be confirmed.

10. *Haripur (Chak 19-GD)*

Location: Over five miles southwest of Satghara, one and a half miles northwest of Boduwala Tibba (above No. 1), and east of the Joya Minor.

Size: 293 feet North-South, 440 feet East-West, and height 155 feet.

Cultural association: Tulamba Period III to VA, 8th to 16th century A.D.

11. *Jamal Khan Tibba*

Location: Two miles southeast of Arifwala and east of the village of Gulo Shah.

Size: A circular mound, about 200 feet across and 10 feet high. Two tube-wells have been installed on it.

Cultural association: Satghara, 16th-18th century A.D.

12. *Jamadar Tibba*

Location: About 700 yards southeast of Satghara village.

Size: 395 feet North-South, 385 feet East-West, and 10 feet high.

Cultural association: Satghara, 16th-18th century A.D.

13. *Kuliana (Chak 34-2RA)*

Location: Five miles southwest of Satghara, on the eastern side of Kuliana village.

Size: 334 feet North-South, 214 feet East-West, and 5 feet high.

Cultural association: Satghara, as Nos. 11 and 12 above.

14. *Lal Khan Tibba*

Location: Less than two miles south of Arifwala, to northwest and outside the village of Gulo Shah.

Size: 160 feet North-South, 100 feet East, and 7 feet high. The mound has been levelled down considerably for cultivation and a tube-well has been installed.

Cultural association: Tulamba Period III and later, 8th-12th century A.D.

15. *Manjwala (Chak* 13-1*R)*

Location: Four miles northeast-East of Satghara, to southeast of the Chak 13-R1 and south of the unmetalled road.

Size: 162 feet North-South, 216 feet East-West, and 6 feet high.

Cultural association: Tulamba Period VA and later, 16th-18th century A.D. and contemporary with Satghara.

16. *Manjwala-II*

Location: One-half mile northwest of Manjwala (No. 15 above) and south of Satghara Minor.

Size: Full extent not possible to determine due to the graves over it. Maximum area covered is about four *kanals*.

Cultural association: Satghara, 17th-18th century A.D.

17. *Qabula*

Location: Outside the town of Qabula, located seven miles south of Arifwala. The town itself is standing on a high monud.

Size: A circular mound, 126 feet across and 7 feet high.

Cultural association: Satghara, 16th-18th century A.D.

18. *Qureshiarwali Dheri*

Location: Over two miles due south of Satghara on the northern bank of Kharar and on the metalled road to Okara.

Size: 750 feet North-South, 105 feet East-West, and 4 to 4 feet high.

Cultural association: Satghara, 16th-18th century A.D.

19. *Rasulnagar (Chak* 15-1*R)*

Location: Two and a half miles northeast of Sarghara and due east of the village 15-1R.

Size: 540 feet North-South, 432 feet East-West, and 10 feet high.

Cultural association: Tulamba Period II and III, from the first century B.C. to 12th century A.D. Red-polished pottery was present.

20. *Satghara East*

Location: On the eastern outskirts of Satghara village.

Size: 275 feet North-South, 300 feet East-West, and over 6 feet high.

Cultural association: Satghara, 16th-18th century A.D.

21. *Tibba Mehboob Shah*

Location: Over one mile southwest of Satghara.

Size: 617 feet North-South, 586 feet East-West, and about 6 feet high. Modern graves are on top.

Cultural association: Tulamba Period III, 8th-12th century A.D.

22. *Wahidpur* (*Chak* 10-1*R*)

Location: Four miles northeast of Satghara and south of the Dhuliana 1R distributary.

Size: 405 feet North-South, 513 feet East-West, and about 12 feet high.

Cultural association: Tulamba Period III-VA, 8th to 16th century A.D.

EXPLORATION IN NORTHERN PUNJAB: CAMPBELLPUR AND RAWALPINDI DISTRICTS[18]

Simultaneously with the excavations at Sarai Khola, important discoveries were being made in the Gomal valley and at Jalilpur which were adding new perspectives to the question of genesis and growth of the Indus Civilization. A new group of handmade, mat marked and burnsihed pottery of Sarai Khola I, was posing problems as regards its origin, distribution and cultural association. The earliest levels of Gumla and Jalilpur were producing evidence which could not be culturally related with Sarai Khola I. This peculiar feature of marked divergences in the material culture is in sharp contrast to the next cultural phase at Sarai Khola (Period II), which is not only very closely related with the materials of Jalilpur II and Gumla II-III but is also wide-spread throughout the Indus river valley. Professor A. H. Dani had already recorded a succession of third millennium B.C. sites in the Gomal valley, and there was a strong suggestion that the Potwar Plateau and especially, the routes leading to or from the Gomal valley were likely to provide additional information on the spread of Sarai Khola II related settlements of the early third millennium B.C. Thus, the exploration of Taxila valley in which Sarrai Khola is located, was carried out which was later on extended further to the southwest in the areas lying within the present-day boundaries of Rawalpindi and Campbellpur districts.

During the survey, 16 sites were recorded, among which three sites namely, Jhang, Khannda and Pind Nausheri could be related with the prehistoric and early historical levels of Sarai Khola. The largest of all the sites is Jhang, located about seven miles west of Sarai Khola in Campbellpur district. Measuring 820 or more by 838 feet, it is standing to a height of 34 feet above the surrounding level and is now surmounted by a modern Rest House. The site has been disturbed considerably,

18. The survey was carried out by Mr. Ahmad Nabi Khan, Mr. M. Abdul Halim and Mr. Gulzar M. Khan. This summary is based on the field notes recorded by Mr. M. Abdul Halim and on the examination of actual materials stored at Karachi.

exposing its cultural contents which are visible in the sections. The materials collected from the surface (Pl. XXX, 5-35), indicate that the settlement of Jhang was contemporary with Sarai Khola periods II and IV. Some structural remains are also visible in the Sarai Khola II- related levels at Jhang. It may be pointed out that at Sarai Khola, the levels associated with Period II yielded very few structures[19].

The pottery from Jhang comparable with that of Sarai Khola II and I ?, includes handmade, red burnished and coarse wares (Pl. XXX, 5) which have been grouped as Sarai Khola pottery types II and IV; the Kot Dijian wares with plain and grooved exterior surface (Pl. XXX, 10-13), and flanged vessels with lids (Pl. XXX, 6-8 and 16) comparable with Sarai Khola types VII, VIII, VIIIA, IX, IXA, IXB and XIII; bowls with multiple painted lines on the inner side (Pl. XXX, 19); and offering stands with dishes (Pl. XXX, 17 and 14-15) like Sarai Khola pottery types XIV and XIVA. Stone celts (XXX, 26, 27), terracotta bangles (XXX, 34, 35) and 'cakes' (XXX, 28), terracotta beads (XXX, 30,31), bone points (XXX, 32, 33), an agate bead and one shell bangle (XXX, 24) were also found. Jhang seems to have all the potential of enriching our knowledge of the Early Harappan cultural phase with additional information, if proper excavation is undertaken.

From the site of Khannda, measuring 606 x 220 yards with 10 feet height, the pottery comparable with that of Sarai Khola II (Pl. XXX, 1) and IV was found. The third site, Pind Nausheri, represents a small mound of about three feet in height. In a small pottery collection, only a couple of the Kot Dijian wares are present (Pl. XXX, 2-4).

Among the remaining 13 sites recorded recently, ten may be placed between the 2nd and 9th century A.D. Most of the sites are reported to be of the Buddhist period and certain ceramic types indicate their contemporaneity with the early historical settlement at Sarai Khola represented there by Period IV. Ten sites of the early historical period are, Bahtar, Bharol, Dheri Sher Zaman, Haji Ashraf Khan-ki-Dheri, Langar, Pind Nasrala I, and II, Piro Shahi, Sarai Madho and Ziarat Badshah Sahib. The date of two more sites, Shahpur I and II is not certain, while another site, Maqam seems to be of recent date (18th-19th century A.D.).

19. *Pakistan Archaeology*, Number 7 (1970-71) Pls. VII and XVIII, a.

EXPLORATIONS IN SOUTHERN SIND

The eastern part of the lower Indus valley, lying between the Indus river and the Thar desert, has been virtually unknown archaeologically. As a result, the nature, duration and extent of various settlements, and their cultural significance were not clear. One of the reasons was that before Independence (1947), archaeological research was largely concentrated in the western part of Sind lying between the Indus river and the Kirthar range, where Moenjodaro is located. The initial field work itself was mostly oriented towards further elaboration of the protohistoric cultures with refrence to the Indus Civilization. Only a single site, Chanhu-daro, located on the eastern (left) bank of the Indus river was excavated which represented the well known Harappan culture. It was after Independence that the Department of Archaeology and Museums in Pakistan, undertook selective excavations at the protohistoric sites (Kot Diji and Naru Waro Dharo) and also at an early Islamic city (Mansura), located on the eastern side of the lower Indus valley. In addition to these excavations, limited surveys were carried out around the principal sites which indicated a diversity of cultural relics. This region has also figured prominently in the early Islamic and Medieval times. Moreover, the pattern of ancient rivers system in eastern Sind, emphasises its geographical significance in the context of an eastward extension of the Indus Civilization. Along the western fringes of the Thar desert, flows the Hakra-Nara channel which was originally fed by the Sutlej river and also by the frequent overspills of the Indus. This region also lies between the heavy clusters of the Harappan settlements in Bahawalpur, northern Rajasthan and Punjab on north, and those of Kutch and Saurashtra in the south. Such geographical, as well as archaeological considerations, prompted the Department of Archaeology to launch a comprehensive programme of extensive explorations in lower Sind along with starting a systematic survey of other parts of the country.

The survey of eastern Sind was conducted by Mr. Mohammad Sharif of the Department of Archaeology for about one month, between September and October, 1972. A full report on the survey has been prepared by Mr. Sharif for publication soon. Meanwhile, only a summary of the results, based on the original report, is presented here.

The recent survey in southeastern Sind was carried out in the present-day administrative districts of Thatta, Hyderabad and a part of Tharparkar, covering roughly an area of 7,000 sq. miles. A total of 104 sites were mapped (Fig. 39) and detailed data on each site was recorded. About one-third of the total number of

sites were not reported previously. Among the remaini g sites, relevant information on most of them was either lacking altogether or was inadequate.

Among the prehistoric sites, only one near Jherrick (No. 17 on the list) appears to be of the Neolithic period, though there are suggestions for assigning it to the "Middle" Stone Age of Pakistan and India[20]. New evidence collected from the known sites of Tharro Hill near Gujo (No. 2), Shah Hussain (No. 10), Kafir Kot (No. 18), and Budhjo-Thakar (No. 20) suggests that these were flint-knapping workshops during the third millennium B.C. Of the Harappan settlements, the site of Gharo Bhiro (No. 97), was examined and studied afresh[21]. This site is located on the western edge of the great Indian desert and close to the Hakra-Nara channel. It is situated about 85 miles north of the Harappan site of Desalpur (in Kutch), or over a hundred miles south of Chanhu-daro. At present, the mound of Garho Bhiro covers an areas of 110 x 50 yards and stands to a maximum height of 25 feet above the surrounding surface. The surrounding plain itself is about 25 feet above the sea level. The surface material from the surface of Gharo Bhiro includes the black-on-red painted pottery (Pl. XXXI, 3, 4, 12-14, 18-19), perforated ware (XXXI, 25-28), large red-slipped jars (XXXI, 3), cakes (XXXI, 30 & 34) and flint blades. The other Harappan sites that were revisited near Karachi by Mr. Sharif were those of Allahdino (or Nel Bazar),[22] Goth Hasan Ali (or Gazkar)[23] Amilano,[24] and Orangi[25].

The remaining sites were represented by mounds, forts and graves of carved stones, amongst which 4 sites are of the early historical period (first to seventh century A.D.), and 87 sites belong to the Muslim period, covering a millennium between 8th to 18th century A.D.), while 14 sites belong to the late historical (or recent ?) period of 19th and early 20th century. Some sites could be dated securely on the basis of an epigraphical or historical evidence, such as the site numbers 23, 80 and

20. W.A. Fairservis, *The Roots of Ancient India.* (New York, 1971), p. 76. Several Neolithic, Mesolithic and also "Late" Stone Age sites are reported to have been located by Mr. Abdur Rauf Khan of the Geography Department, Karachi University. These sites are located 15 to 30 miles west, north and northeast of Karachi. Information from Mr. A.R. Khan and also, *Ancient Settlements in Karachi Region* (Karachi, 1968), pp. 8-13.

21. This site was first reported by H.T. Lambrick, 'Amateur Excursions in Archaeology, No. III-Eastern Sind', *Journal of Sind Historical Sociaty* (Karachi, 1946), Vol. VIII (1), p. 60; and *Idem., Sind : A General Introduction* (Hyderabad, 1946), pp. 89-90.

22. *Pakistan Archaeology*, No. 1, 1964, p. 9.

23. *Pakistan Archaeology*, No. 5, 1968, p. 2; and A. Rauf Khan, *Ancient Settlements in Karachi Region* (Karachi, 1968), p. 4.

24. N.G. Majumdar, 'Explorations in Sind', *Memoirs of the Archaeological Survey of India*, No. 48 (Delhi, 1934), p. 143.

25. *Pakistan Archaeology*, No. 1, 1964, pp. 8-9. Another Harappan site, Pir Shah Jurio, located on the mouth of the Hab river has been reported by Mr. A.R. Khan, *op. cit.*, p. 3.

96. Two more forts, Wagojo-kot and Rattu Kot were also mapped. The Muslim graves built of carved stones, commonly known as the "Chaukhandi type" were also numerous in this region which consist of Nos. 3, 4, 11, 14, 17, 22, 26, 43, 73, 80, 98, 99 and 100.

Sites in southern Sind (1972)

Abbreviations: *EH* — *Early historical* (*1st ot 7th century A.D.*)
LH — *Late Historical* (*19th-20th century A.D.*)
M — *Medieval* (*8th to 18th century A.D.*)
N — *Neolithic*
P — *Protohistoric*

Site No.	*Name of the site*	*Taulka*	*District*	*Cultural period or date*
1.	Banbhore ..	Mirpur Sakro	Thatta	EH & M
2.	Tharro Hill, Gujo ..	Thatta	Thatta	P
3.	Thano Hill, Gujo Graves ..	Thatta	Thatta	M
4.	Goth Raj Malik ..	Mirpur Sakro	Thatta	M
5.	Rano Kot ..	Mirpur Sakro	Thatta	M
6.	Rano Kot Graves ..	Mirpur Sakro	Thatta	17:8 A.D. (M)
7.	Goth Tikka ..	Kati Bandar	Thatta	LH
8.	Goth Fazal Khan ..	Kati Bandar	Thatta	LH
9.	Miran Biloch Brahmani ..	Kati Bandar	Thatta	LH
10.	Shah Hussain ..	Thatta	Thatta	& P M
11.	Shah Hussain Graves ..	Thatta	Thatta	M
12.	Uderolal ..	Gora Bari	Thatta	LH
13.	Pir Patho ..	Gora Bari	Thatta	M
14.	Pir Patho Graves ..	Gora Bari	Thatta	M
15.	Kalan Kot ..	Thatta	Thatta	M
16.	Sonda Graves ..	Thatta	Thatta	M
17.	Jherrick Graves ..	Thatta	Thatta	M & LH
18.	Kafir Kot ..	Thattz	Thatta	P & EH
19.	Milestone 101 (Jherrick Hill) ..	Thatta	Thatta	N or early.
20.	Badhjo-thakar ..	Tando Mohd. Khan	Hyderabad	P & EH
21.	Nodo Baran ..	Sujawal	Thatta	M
22.	Abban Shah Graves ..	Shah Bandar	Thatta	M & LH
23.	Shah Bandar ..	Shah Bandard	Thatta	1758 A.D. (M)
24.	Sonda Bandar ..	Jati	Thatta	LH
25.	Shah Kapur ..	Jati	Thatta	M
26.	Shah Kapur Graves ..	Jati	Thatta	M
27.	Rarri ..	Jati	Thatta	LH
28.	Nind Kot ..	Jati	Thatta	M
29.	Nanda Kot ..	Jati	Thatta	M

Site No.	Name of the site	Taulka	District	Cultural period or date
30.	Deh Semanijo-daro ..	Mirpur Botaro	Thatta	M
31.	Haji Kamiso Chandiojo-daro ..	Mirupur Botaro	Thatta	M
32.	Buleh Shahjo-daro ..	Mirupur Botaro	Thatta	M
33.	Mirpurjo-daro ..	Thatta	Thatta	M
34.	Sattiojo-daro ..	Mirpur Boaro	Thatta	M
35.	Hatrijo-daro ..	Mirupur Botaro	Thatta	M
36.	Karim Bakhojo-daro ..	Mirupur Boaro	Thatta	M
37.	Rahunjo-daro ..	Mirpur Boaro	Thatta	M
38.	Meccacejo-daro ..	Mirupur Boaro	Thatta	M
39.	Lal Chatto ..	Tando Mohd. Khan	Hyderabad	M
40.	Junjo-daro ..	Tando Mohd. Khan	Hyderabad	M
41.	Fateh Bagh-I ..	Tando Mohd. Khan	Hyderabad	M
42.	Fateh Bagh-II ..	Tando Mohd. Khan	Hyderabad	M
43.	Fateh Bagh Graves ..	Tando Mohd. Khan	Hyderabad	M & LH
44.	Tando Ghulam Haiderjo-daro ..	Tando Mohd. Khan	Hyderabad	M
45.	Lasharijo-daro ..	Tando Mohd. Khan	Hyderabad	M
46.	Dand-ko-khanjo-daro ..	Tando Mohd. Khan	Hyderabad	M
47.	Jumo Jakhrojo-daro ..	Tando Mohd. Khan	Hyderabad	M
48.	Talib Shahjo-daro ..	Tando Mohd. Khan	Hyderabad	M
49.	Tuljo-daro ..	Tando Mohd. Khan	Hyderabad	M
50.	Mahmudanijo-daro ..	Tando Mohd. Khan	Hyderabad	M
51.	Tharojo-daro ..	Tando Mohd. Khan	Hyderabad	M
52.	Ismail Shahjo-daro ..	Tando Mohd. Khan	Hyderabad	M
53.	Amrijo-daro ..	Tando Mohd. Khan	Hyderabad	M
54.	Mari Wassayo ..	Tando Mohd. Khan	Hyderabad	M
55.	Khirun Kot ..	Tando Mohd. Khan	Hyderabad	M
56.	Kakejo-daro ..	Tando Mohd. Khan	Hyderabad	M
57.	Dilhardijo-daro ..	Tando Mohd. Khan	Hyderabad	M
58.	Mirzajo-daro ..	Tando Mohd. Khan	Hyderabad	M
59.	Aselijo-daro ..	Tando Mohd. Khan	Hyderabad	M
60.	Misri Shahjo-daro ..	Tando Mohd. Khan	Hyderabad	M
61.	Mangriajo-daro ..	Tando Mohd. Khan	Hyderabad	M
62.	Jhakanijo-daro ..	Tando Mohd. Khan	Hyderabad	M
63.	Deh Kharchjo-daro ..	Tando Mohd. Khan	Hyderabad	M
64.	Deh Khanderjo-daro ..	Tando Mohd. Khan	Hyderabad	M
65.	Jhakari (Maijubanjo-daro) ..	Tando Mohd. Khan	Hyderabad	M
66.	Kat Bambhanjo-daro ..	Tando Mohd. Khan	Hyderabad	M
67.	Bulrijo-daro ..	Tando Mohd. Khan	Hyderabad	M
68.	Dhandijo-daro ..	Tando Mohd. Khan	Hyderabad	M
69.	Shah Usmanjo-daro ..	Tando Mohd. Khan	Hyderabad	M
70.	Charojo-daro ..	Tando Mohd. Khan	Hyderabad	M
71.	Shah Mahmoodjo-daro ..	Tando Mohd. Khan	Hyderabad	M
72.	Khawjajo-daro ..	Tando Mohd. Khan	Hyderabad	M
73.	Saidpur Graves ..	Tando Mohd. Khan	Hyderabad	M
74.	Sudheranjo-Dhado ..	Tando Mohd. Khan	Hyderabad	EH
75.	Thari ..	Mithi	Hyderabad	M

Site No.	Name of the site		Taulka	District	Cultural period or date
76.	Jurkhunjo-kot	..	Mithi	Hyderabad	M
77.	Abdullah Shahjo-daro	..	Mithi	Hyderabad	M
78.	Dabrijo-daro	..	Mithi	Hyderabad	M
79.	Amriwarjo-daro	..	Mithi	Hyderabad	M
80.	Sangranijo-muqam	..	Mithi	Hyderabad	1971 A.D. (M)
81.	Morjo-daro	..	Mithi	Hyderabad	M & LH
82.	Thal Bangar	..	Tando Bago	Hyderabad	M
83.	Wasi Pir Misrijo-daro	..	Tando Bago	Hyderabad	M
84.	Otanjo-daro	..	Badin	Hyderabad	M
85.	Shah Ghuriojo-daro	..	Badin	Hyderabad	M
86.	Ibrahim Shahjo-daro	..	Badin	Hyderabad	M
87.	Old Badin	..	Badin	Hyderabad	M
88.	Malhianjo-daro	..	Badin	Hyderabad	M
89.	Kohaljo-daro	..	Badin	Hyderabad	M
90.	Varjo-daro	..	Badin	Hyderabad	M
91.	Roopa Mari	..	Badin	Hyderabad	M
92.	Pano Lunkijo-daro	..	Badin	Hyderabad	M
93.	Kuree Kot	..	Badin	Hyderabad	M
94.	Kanjo Kot	..	Diplo	Tharparkar	M & LH
95.	Rahimki-bazar	..	Diplo	Tharparkar	M & LH
96.	Naokot	..	Mithi	Tharparkar	1812 A.D. (LH)
97.	Gharo Bhiro	..	Mithi	Tharparkar	P & LH
98.	Haji Allahdino Graves	..	Malir	Karachi	M
99.	Baluch's tombs	..	Malir	Karachi	M
100.	Chaukhandi tombs	..	Malir	Karachi	M
101.	Allahdino (Nel Bazar)	..	Malir	Karachi	P
102.	Goth Hasan Ali	..	Malir	Karachi	P
103.	Amilano	..	Malir	Karachi	P
104.	Orangi	..	Karachi	Karachi	P

EXPLORATIONS IN NORTHERN BALUCHISTAN

The hills of Baluchistan mark the western limits of the vast valley of the Indus river system. Sporadic as well as limited archaeological researches carried out during the past fifty years have demonstrated close cultural links of Baluchistan with the regions on its north, northwest and west existing since prehistoric times. The field investigations carried out at a number of sites in the Indus valley after Independence (1947) have emphasised further the role of Baluchistan in the development of material culture before the rise of the Indus Civilization. These researches indicate that diverse cultural groups of Baluchistan were not an isolated phenomena but they were closely related with their prehistoric and Bronze Age counterparts in the Indus valley. Thus, there is no justification to regard Baluchistan as a "refuge

area"—divorced from the cultural developments of the surrounding regions.[26] Moreover, the most recent excavations in Iran at the sites located close to Pakistani border namely, Shahr-i-Sokhta, in Dasht-i-Lut and at Bampur, are bringing into focus the region of Baluchistan in the context of certain questions pertaining to inter-settlement and inter-regional contacts among the southwestern and south Asian communities during the prehistoric times. The available evidence allows us to affirm that at least during the fourth and third millennia B.C., Baluchistan constituted not only a vital link between the Indus valley and the regions on its west and north-west, but also formed an integral part of a considerably large sphere of cultural interaction.

Seen in the light of recent archaeological researches in the Indus valley, in southern Afghanistan and eastern Iran, the available evidence from Baluchistan was very inadequate in answering many a question concerning cultural and chronological reconstructions. Therefore, the Department of Archaeology decided to launch a comprehensive programme of systematic explorations in Baluchistan as a preliminary to intensive excavations at the selected sites. A *Central Archaeological Mission to Baluchistan* was constituted under the leadership of the present author with the responsibility of making a thorough research of all kinds of sites and monuments, to collect and record the basic data on each site, and to make recommendations on the sites suitable for protection under the Antiquities Act, 1968. Accordingly, a team of eight members[27] surveyed the northern areas of Baluchistan during the Spring of 1972 which covered three administrative districts: Zhob, Loralai and Quetta-Pishin. A part of upper Kalat in central Baluchistan was also traversed down to Khuzdar. In addition, ethnological materials were also collected to which reference will be made in the following pages.

Our primary objective was to survey the maximum area and to examine and record every ancient site, whether recorded or not previously. It was not intended to excavate any site at this stage. However, we were able to do a very limited digging in the upper levels of Damb Sadaat in order to check the sequence known

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26. Prof. A.H. Dani, while emphasising the significance of Gomal valley states: "*Baluchistan is now reducedto a hinter hill zone where cultural infiltration served as refuge area as it has been throughout history*". *Ancient Pakistan*, Number 5 (Peshawar, 1970-71), p. vii.

27. In the northern districts of Baluchistan, the author was asisted in the field by Mr. Nazir Khan, and Mr. Masoodul Hasan. The other membrs were, Mr. Manzoor A. Siddiqui (Surveyor and Draftsman), Mr. S.A. Zaidi (Modeller and Restorer), Mr. M. Aqleem (Pottery and Antiqities Recorder), Mr. A. Hamid (Camp Supervisor) and Mr. Bakht Amin (Watchman). Two graduate students from the University of Karachi remained with the team for two weeks. Besides, Mr. S.M. Ashfaque from the National Museum of Pakistan was associated with us for ethnological research. The photography was carried out by the author.

During the survey of central Baluchistan in Kalat, the author was assisted by Mr. Nazir Khan and Mr. Bakht Amin. A Land Rover with a driver was kindly provided by the Education Department of Baluchistan Government for the entire period of exploration in Baluchistan.

through previous digging at that site. Similarly, the site of Periano Ghundai showed a number of exposed sections due to recent disturbance which necessitated some excavation and trimming of sections for the retrieval of material evidence. Although a straight trench from top to the virgin soil was not laid but our ten days study and work at Periano Ghundai proved most rewarding. As a result, it became possible to suggest a tentative chronological sequence, based on the study of ceramics, and then to group the entire surface materials into a workable framework. With the exception of these two sites, the evidence from the others comes from the surface. In case of large prehistoric sites, our technique of surface collections differed from the traditional way of random and selective sampling. The samples were collected from carefully demarcated areas which revealed interesting and useful information on the nature and location of various occupations at a particular site. In this way it was possible to determine that the Harappan remains at Periano Ghundai (Zhob) and Kaonri (Loralai) were concentrated at only one edge of these settlements. It was also possible to determine that the Harappan remains at Dabar Kot do not exist beyond 25 feet from top of the mound. At a particular level, it is spreading all over except on the eastern side. A re-examination of some known or reported sites yielded new or additional evidence which also helped in correcting certain inaccuracies and even distortions in the published reports.

During the survey a total of 99 sites, including least 35 sites which were not known or reported before, were throughly examined and a few other sites were only visited. A full list of the sites along with their cultural association is given at the end of this review (pp. 147-49). A detailed report is being prepared. Most of the sites represent more than one cultural assemblage. Our preliminary analysis of the new evidence suggests that eleven sites were inhabited during the late fifth and fourth millennia B.C. The maximum increase in the number of settlements is evident during the third millennium B.C. when their total reached 56 (in the area so far explored). The archaeological evidence indicates that it was during this period that Baluchistan and Indus valley had a wide-spread and intensive contacts with the inhabitants of southwestern and south Asia. The remains of the second and first millennia B.C. in Baluchistan are known by the pottery groups called Londo, Pirak and Ghul wares and by some burial cairns of uncertain date. On this basis, twenty-two sites could be assisgned to the second millennium B.C. and later. The early historical and Islamic periods are yet to be explored adequately in Baluchistan. Therefore, very little or nothing is known of the cultural succession and chronology of the historical period. Certain wares are termed as "Buddhist", "Sassanian", "Islamic" or "Medieval" but these are yet to be fixed into a secure

chronological framework. Already, the typological similarities of stamped wares among the Medieval settlements of the Indus plain and Baluchistan suggest that even in the historical period both the regions remained culturally related with each other. During the recent survey, at least 42 sites of the historical period were recorded. In the following pages, the significant evidence is briefly reviewed.

The Zhob district

The site of Periano Ghundai (No. 1 on map) near Fort Sandeman in the Zhob valley now lies exposed in several parts due to disturbance by the villagers. By limited trenching at few critical points, and by recovering materials from the exposed sections and carefully demarcated areas of the site, it was possible to suggest a relative ceramic chronology of Periano Ghundai. The earliest known phase of occupation, called Periano A, seems to be characterised mostly by a distinctive group of handmade pottery, somewhat burnished inside and mostly slipped with grey or black externally. A fine brushwork is reflected in the black painted designs on the inner side of bowls and other vessels (Pl. XXXII, 4-8 and 10). Some pieces of the same fabric have painted designs on both the sides near the rim and are not black slipped on the exterior surface. Periano A pottery recalls the painted style of the handmade pottery of Anau IA, and possibly of Kara Tepe near Shahriyar, Tehran.[28] In the same group of Periano A pottery, may be included some black on red slip (Pl. XXXII, 8) and basket marked (XXXIV, 1 and 10) wares, comparable with those from Kile Gul Mohammed II-III and Anjira I-II levels. On ceramic evidence, Periano A group may be placed between the middle of fifth and fourth millennia B.C. It must, however, be pointed out that the depth of occupations at Periano Ghundai below the surrounding plain level is not yet known.

Of the subsequent occupations at Periano Ghundai, a great variety of pottery is available (Pls. XXXI-XXXVA). Bichrome pottery painted with white and black (XXXII, 11-12), red and black on red slip (XXXII, 14-15), or on buff slip (XXXII, 13) is essentially associated with Periano B but seem to have remained in use along with most of the black on red wares of our next phase Periano C (XXXII, 16; XXXIII, 1-16). The Periano C phase should be equated with the "Middle strata" as already defined elsewhere by the present author.[29] The characteristic Kot Dijian wares namely, the flanged vessels (XXXIII, 8) and short-necked vessels with grooved and plain exterior (XXXIV, 2 and 8) of the Early Harappan period fall within Periano C

28. T. Burton-Brown, 'Excavations in Shahriyar, Iran', *Archaeology* (New York, 1962), Vol. 15(1) pp 27-31.

29. M.R. Mughal, *The Early Harappan Period in the Greater Indus Valley and Nethern Baluchistan* (ca. 3000-2400 B.C.). Ph.D. Dissertation in Anthropology, University of Pennsylvania, 1970, p. 213.

phase. There is a diversity of ceramic types in Periano C phase some of which are useful for relative chronology. In addition to the early Harappan wares of the Greater Indus Valley, the "Faiz Mohammed Painted", black on red, and black on grey (XXXII, 9), "Quetta wet" (XXXIV, 7) and combed incised wares (XXXIV, 5) also occur in association with the black on red pottery. The entire black on red pottery assemblage of Periano C can be divided into two broad groups which may have chronological implications. The fine painted wares which may represent an early phase (XXXIII, 1, 3-10, 13-15) were found in association with the female figurines (XXXV B) from a test trench. In this group are also included the Kot Dijian, "Faiz Mohammad Painted" and "wet" wares, and the vessels of Kot Dijian pottery shape with short-neck and painted band, or with a line only, combined with the 'wet' and 'Reserve Slip' technique of surface treatment (XXXIV, 3, 6 and 9). It needs to be pointed out that the early Harappan Kot Dijian short-necked wares with plain or grooved exterior are mostly confined to the Indus valley, while the 'wet' wares are generally concentrated in northern and central Baluchistan. Incidentally, the typical Kot Dijian wares are found at several sites in Baluchistan, and a few examples of the characteristic 'wet' wares are reported from Gumla and early Moenjodaro. At Periano Ghundai, we find a combination of two ceramic traditions along with the typical "wet" and Kot Dijian wares. In the later part of Periano C, a change in ceramics is suggested by the less elaborate but new painted designs (XXXIII, 2 and 9), new forms of undecorated beakers and large vessels with relief decoration (XXX A).

Periano D phase includes mature Harappan pottery and related materials seemingly superimposed above Periano C, but confined to the southwestern corner of the site only. The area covered by the mature Harappan materials was not large enough to suggest a full fledged Harappan settlement; it may represent a small Harappan outpost existing after Periano C phase. Only excavations can place the mature Harappan materials in their exact stratigraphical position. The extent of the settlement during the Medieval period, Periano E, could not be ascertained but some pottery types are comparable with those of the Gomal plain and the central Indus valley.

Among the newly recorded prehistoric sites, the wind eroded mound of Lahar (No. 30) near Muslim Bagh, produced coarse pottery constituting 1/3rd of the total surface collection. Buff and cream slipped wares and potsherds with black and red painting were also collected along with the fragments of alabaster vessels, numerous thin and short chert blades and one laurel-shaped arrowhead of stone. Typologically, the flint industry of Lahar is suggestive of at least fourth millennium

B.C. date. The laurel-shapped flint arrowheads are rare in Baluchistan and the Indus valley. An arrowhead from Lahar strikingly resembles those reported from Afghan-Iranian Sistan, particularly at Sohr-i Sokhta,[30] Hissar I and IIIB,[31] Mundigak II, 2 levels,[32] Shah Tepe IIIA,[33] and Susa A. In a secluded valley located about four miles northeast of Murgha Kibzai, the site of Khoedada (No. 6) has almost flat surface which is littered with pottery and a variety of chert blades and cores. Both the coarse and fine painted wares occur which are typlogically comparable with Rana Ghundai III and Kile Gul Mohammed III-IV pottery.

The other sites, examined in the Zob district were: Hamai Karez (34), Kan Mehtarzai-I & II (33 & 32), Karezai (31), Manzarai Tora (5), Mata Kaudani (3), Moghul Ghundai (4) and Rogha Kaudani (2).

The Loralai District

Before reviewing the evidence from Loralai district, a general comment seems to be appropriate here. Although several pottery types characteristic of different areas are present in the Zhob valley centerd around Periano Ghundai, yet most of the black on red painted wares and their vessel forms are restricted to the Zhob valley alone. In Loralai district, some mixture of the ceramic traditions of the Zhob and Quetta valleys is apparent. Loralai district itself has two well-defined valleys: Loralai valley on north, and the Thal plain on south. But the cultural/chronological sequence of the whole district is based on an unexcavated site of Rana Ghundai (No. 16) and on a small site of Sur Jangal (21). Generally, the black on red painted wares of the Zhob valley and the associated pottery of Periano C, do not penetrate into the Loralai valley with as much quantities as to consider the Zhob valley assemblages as a part of the Loralai sequence, inclusive of the Thal plain.

The site of Rana Ghundai was re-examined and samples of pottery and charcoal[34] were taken from the exposed sections. It goes to the credit of early explorers whose work at the site, though extremely limited, has focused our attention on the cultural and chronological significance of Rana Ghundai. A detailed re-analysis of the evidence gathered from this site must be left for the full report now under preparation. Suffice it would be to mention that we concentrated mostly on the study

30. M. Tosi, 'Excavations at Shahr-i Sokhta, a chaloclithic settlement in the Iranian Sistan', *East and West* (Rome, 1968), Vol. 18 (1-2), Fig. 24, No. 1-2 and Fig. 27, No. 11-12. Numerous stone arrowheads are also reported from the sites in Rud-i-Biyaban, Sistan by Sir Aurel Stein, *Innermost Asia* (Oxford, 1929), Pl. XCXIII.

31. E.F. Schmidt, *Excavations at Tepe Hissar, Damghan* (Philadelphia, 1937), Pl. XVII, H. 4823 and LXIII, H. 1800.

32. J.M. Casal, *Fouilles de Mundigak* (Paris, 1961), Fig. 137, 1a.

33. T.J. Arne, *Excavations at Shah Tepe, Iran.* (Stockholm, 1945), Fig. 566.

34. The charcoal samples from RG I and RG IIIa levels have been sent to the University of Pennsylvania for C-14 tests.

of RG I and III levels for ascertaining the nature of change in RG II period which is not known adequately. The ceramics from RG I are contemporary with Kile Gul Mohammed I and Periano A. From RG IIIa-b levels was found pottery painted with elaborate geometric designs (Fig. 38, No. 12). A fragment of a cup or beaker showed and animal design painted with black on red slip separated by a solid triangular design (Fig. 38, No. 11).

From the site of Kaonri (27), located close to the village of Duki Kili, pottery painted in Sur Jangal II-III and Rana Ghundai II-III style, including the bull design (Pl. XXXVI, 18), was collected. On the eastern edge of the mound, the mature Harappan occupation was attested by the presence of black on red pottery, perforated wares, terracotta 'cakes' and bangles. Like Periano Ghundai, the Harappan remains at Kanori, too, do not spread all over the site.

The great mound of Dabar Kot, towering more than one hundred feet above the Thal plain, throws out a challange to the archaeologists. The Thal plain in which Dabar Kot is located, lies on the historic route connecting the Indus valley with Kandahar and beyond. The surface finds from Dabar Kot establish its date from at least the middle of fourth millennium B.C. to the Medieval period. A unique find came from one of Stein's sections at the height of about eighty feet above the surrounding plain level. It is a cup of pale-buff ware with an open channel spout (Pl. XXXVII B, 3 and Fig. 38, No. 13). This type of cup has not yet been found or reported from any where in Pakistan. However, similar cups of pottery or of copper/bronze are reported from Shah Tepe,[35] Hissar IIIC,[36] Dasht-i-Lut,[37] and from Dashli-1 in northern Afghanistan.[38] Typologically, this channel spouted cup from Dabar Kot may belong to the middle of the second millennium B.C. or slightly earlier. Elsewhere in western India, channel spouted cups with slightly different form and surface treatment are reported from Navdatoli, Phase II,[39] assignable to 1507±127 and 1542±128 B.C. (on new half-life of 5730 years) or to 1690-1710 and 1720-1760 B.C. with MASCA corrections. Comparable spouted cups also occur in

35. *Ibid.* Fig. 406, p. 203; XXX, 213; XL, 269, and 273.

36. Schmidt, *op. cit.*, of pottery, XXXVIII, H. 4104; XLI, H. 3315; of copper, LVII, H. 4883 and 3270; and of stone, LIX, H. 4187.

37. A. Hakemi, *Catalogue de l exposition Lut.* Premier Symposium Annual de la Recherche Archaeologique en Iran. (Tehran, 1972), Pl. XVII, C. (in metal).

38. V.I. Sarianidi, 'North Afghanistan in the Bronze Period,' *Afghanistan* (Kabul, 1971), Vol. 24 (2-3), pp. 26-28, Fig.s 7 and 8.

39. H.D. Sankalia, S.B. Deo and Z.D. Ansari, *Chalcolithic Navdatoli : The Excavations at Navdatoli*, 1957-59. (Poona, 1971), Pl. XVIIB, Fig. 71, No. T-59A, p. 40.

Rajasthan and Deccan.[40]

The other sites examined in Loralai district were: Bala Spina (No. 17) Dirgai Shabozai (14), Feroz Khan Ghundai (12), Ghalawa Ghundai (28), Habib Kili (25), Hadeera Ghundai (20), Kandai (26), Kashkai-I, II and III (9, 10, 8), Lahor (15), Moghul Qila (13), Mughal Kot (23), Pathan Kot (18), Sinjawi Ghundai (19), Spulai Qila (22), Tora Dabra (24), Wahar (11) and Watgam (7).

The Quetta—Pishin District

The joint name of Quetta—Pishin is derived from two contiguous valleys of Quetta, located almost in the middle of Baluchistan, and of Pishin on its west and extending to the border of Afghanistan. From Pishin, the Kandahar plain is approached through the Khojak pass across the Khawja Amran range. On the route to the Khojak pass, it was noted that the number of early historical and Medieval sites was greater than those of the prehistoric period. Whether or not the Khojak Pass was used during the prehistoric times as frequently as in the Medieval period, remains to be established.

Near Pishin, two new sites, Haji Qaim Khan (No. 42) and Jagjai (40) were discovered. The site of Haji Qaim Khan yielded numerous chert blades and scrapers along with copper bits from its lower levels now exposed due to recent disturbance. The other but low mound of Jagjai, yielded short-necked Kot Dijian, basket marked, "Faiz Mohammad", "Quetta wet" and "Quetta Painted" wares from the surface. Chert blades, scrapers, terracotta bangles and beads were also collected. A re-examination of Spina Ghundai (35) near the modern village of Manzakai[41] revealed ceramics which were almost identical to those from Jagjai, including the Kot Dijian pottery with short rim. The Harappan type of perforated pottery was also found, just as it occurs at Quetta Miri (58) in the Quetta valley and at other sites in the Loralai and Zhob valleys. The village of Manzakai (36) itself occupies an ancient mound. At the southern edge of a pebble covered hillock which overlooks the wide bed of Bershore Lora, the pottery of early historical (Sassanian?) period and a fluted bronze vase with loop handle (Pl. XXXVIIB, 4) were recovered from

40. H.D. Sankalia, 'New light on the Indo-Iranian or Western Asiatic relations between 1700 B.C.—1200 B.C.' *Artibus Asiae* (Ascona, Switzerland, 1963), Vol. XXVI (3-4), pp. 315-317. Our specimen from Dabar Kot seems to be an import from a region on its northwest (northestern Iran, Afghanistan or Central Asia) where cups with channel spout mostly occur in the second milennium B.C. contexts. This cup from Dabar Kot may be assigned to the second quarter or at best, to the middle of the second millennium B.C. It is significant to point out that about this time or slightly earlier, the Indus Civilization is believed to have declined.

41. This site was previously examined by the present author in 1960 and a brief note appeared in *Pakistan Archaeology*, No. 2, 1965, pp. 3-5. It should be noted that Pl. VIII, 1-5 and 7 illustrates pottery from Spina Ghundai and *not* of Bhiro Bham. The sherds from Bhiro Bham are illustrated on Pl. VII.

the exposed section. The site of Sra Kala (41), located about five miles north-northwest of Pishin, was reported by Stein briefly.[42] Further examination of this site revealed prehistoric pottery which consisted of the "Quetta Painted", "Faiz Mohammad," basket marked and "Reserve Slip" wares in addition to the early historical pottery with stamped designs and corrugated profile. The collection also included short-necked Kot Dijian wares with grooved external surface exactly like those of Sarai Khola pottery type VII of Period II, Jalilpur II, Gumla II-III and other early third millennium B.C. sites in the Greater Indus Valley.[43]

The Quetta valley proper was previously surveyed by W.A. Fairservis in 1950 and a number of sites were mapped.[44] During our survey, not only the known sites were re-examined but also some new sites were added to the list. At the foot of Chiltan range and close to the Sariab Lora, a pebble covered mound was located near the modern settlement of Rizvi Karuna (55). The presence of coarse and tempered wares, basket marked, "Quetta wet" and those painted with crossed triangular designs in black would suggest a time-range of at least fourth to third millennium B.C., comparable with Kile Gul Mohammed III-IV levels. Limited digging was done in the upper levels of Damb Sadaat along side the excavated trench to check the evidence of Damb Sadaat III levels which apparently have revealed a change in the ceramics from the "Quetta Painted" to the "Sadaat" wares. A detailed analysis shall be presented in the final report.

The other sites examined in the Quetta-Pishin district were: Ahmad Khanzai, North and South (54 and 56), Babari Ghundai (44), Karaz site (58), Kasiano Dozakh (49), Kechi Beg (60), Kile Gul Mohammed (52), Kirani (53), Kuchlagh (48), Kuchnai Ghundai (37), Kuzbagh (57), Populzai (47), Raisa Ghundai I & II (39 and 38), Rock-cairn (62), Salezai (45), Sheikh Farid Baba (43), Sheikh Manda (51), Spina Ghundai, Habibzai (46) and Tor Ghundai, Baleli (50).

The Kalat District

Our survey in Kalat district was confined to the Sarawan and upper Jhalawan region and mostly along the main lines of communication.[45] The purpose was to

42. Sir Aurel Stein, *An Archaeological Tour in Waziristan and Northern Baluchistan.* M.A.S.I. No. 37 (Calcutta, 1929), pp. 82-83.

43. M.R. Mughal, in the present volume above, pp. 34-53 *passim.*

44. W.A. Fairservis, 'Excavations in the Quetta valley, West Pakistan,' *Anthropological Papers of the American Museum of Natural History.* Vol. 45, Part 2 (New York 1956).

45. Our original plans were to cover at least a part of Sibi district and the Chagai and Kharan areas before reaching Kalat, and then to proceed to the Kej valley of central Makran. But due to hot weather in Sibi, Chagai and in Kharan districts during the month of May, those areas had to be left for future survey. Instead, we moved to upper Kalat where weather was relatively tolerable.

re-examine those sites which were reported by Stein and B. de Cardi,[46] to record and collect fresh evidence from each site, and also to traverse those areas which have not been reached before. Thirty-eight sites were examined from Quetta to Khuzdar. Test trenching could not be carried out any where due to the shortage of time and necessary staff.

The evidence from Mobi Damb (63) and from the newly discovered sites of DambShirinab (65) and Bhut Shamsi (64) near Mastung[47], demonstrated that at least for thirty miles south of Quetta,thearea falls within an effective cultural range of the Quetta valley sequence as represented by Damb Sadaat I-III and Kechi Beg assemblages. Some mixture of the Nal wares is evident at Bhut Shamsi (Pl. XXXVII B, 2) but the Anjira or other painted wares of the Surab sequence were not present. Beads of carnelian, lapis lazuli and an alabaster bowl (XXXVII A) were among the numerous finds collcted from Bhut Shamsi through the courtesy of a local landlord, Malik Mohammad Saeed Baloch.

A conspicuous change in ceramics is apparent further southwards from Mastung to Kalat. The settlements in that area of southern Sarawan and Jhalawan showed materials related mostly, if not all, with Anjira I to III and IV periods (No. 98). The Anjira III-IV cultural horizon is represented on many sites (see alphabetical list, p. 147). Incidentally, in the same area, the settlements of Londo wares are located.

Three settlements of large size were discovered in the Iskalku valley, about five miles east of Kalat which are Damb Channarozai (84), Damb Hasal Khanzai (83) and Damb Wali Mohammad (83). The surface materials from these sites belongs mostly to Anjira IIIA-IIIB period in addition to the evidence of Islamic occupation. The largest collection of pottery was made from Togau (69) which represented almost the entire known sequence of Anjira I to III, including the four stages of Togau A to D. Some selected potsherds are illustrated on Pl. XXXVI, 1-17 and 19-21.

The other sites examined in upper Kalat were: Bandakhi (No. 79), Damb Guhram (88), Damb Shehr (89), Damb Zargaran (73), Ghar (76), Hadi Islam A and B (96 and 97), Siah Damb, also called Jati Damb (92), Jori Damb I and II(71 and 70), Khad-i-Kohing (81), Khad-i-Tegak (95), Khawaja Zubair (77), Kohing II (80), Kuleri (75), Kuleri Damb-I (72), Lakhurian (99), Malghori Damb (78), Mali (85),

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46. B. de Cardi published the results of her test diggings at Anjira (98) and Siah Damb (92) in *Pakistan Archaeology*, No. 2, 1965, pp. 86-182. However, a full report on other sites recorded during her survey of Kalat is as yet awaited. Only the site-names and brief descriptions of certain specific time-range are available in various publications: *Antiquity*, Vol. XXXIII, 1959, pp. 15-24; *Iraq*, Vol. XIII, 1951, pp. 63-75; and in *Pakistan Archaeology*, No. 2, 1964, pp. 20-29.

47. This site was first visited by Mr. Nazir Khan of the Department of Archaeology, Pakistan.

Neghar Damb (90), Rais Khair (also Sher) Mohammad (93), Rodinjo I and II (86 and 87), Safaid Bulandi (66), Saiyid Maurez (68), Sampur Damb (67), Sianzai (74), Surkh Damb (91), and Tegak II (94).

Alphabetical list of sites surveyed in northern Baluchistan (Fig. 40)

Abbreviations and explanations

*	New site, not reported before
DS	Damb Sadaat
KGM	Kile Gul Mohammed
RG	Rana Ghundai
SJ	Sur Jangal
Medieval	8th to 18th century A.D.
Islamic	Glazed wares, otherwise of Medieval period.
Early Historical	1st to 7th century A.D., covering also the Sassanian and Buddhist periods.
Buddhist and Sassanian	With positive or suspected evidence, otherwise of Early Historical period.
Blades	Chert blades of prehistoric occupation, cultural association not known.
Londo	Pottery group of the first millennium B.C.

Sites	*Site No. on map*	*District*	*Cultural association or period*
Ahmad Khanzai (N)	(54)	Quetta-Pishin	DS I-III, KGM IV
Ahmad Khanzai (S)	(56)	Quetta-Pishin	DS II-III
Anjira	(98)	Kalat	KGM II-III, DS I-II
Babari Ghundai	(44)	Quetta-Pishin	Early Historical, Iron Age?
Bala Spina	(17)	Loralai	Buddhist
*Bhut Shamsi	(64)	Kalat	DS II-III
Bundakhi	(79)	Kalat	Anjira I-IIIA, KGM II-III
Dabar Kot	(29)	Loralai	SJ II-III, RG IIIa, Mature Harappan, Iron Age, Buddhist
*Damb Channarozai	(84)	Kalat	Anjira III?
Damb Ghuram	(88)	Kalat	Anjira III?
*Damb Hasal Khanzai	(83)	Kalat	Anjira III, Islamic?
Damb Sadaat	(61)	Quetta-Pishin	Early Harappan, Kot Dijian
Damb Shehr	(89)	Kalat	Londo
*Damb Shirinab	(65)	Kalat	DS II-III
*Damb Wali Mohammad	(82)	Kalat	Anjira II-IIIA

Sites	*Site No. on map*	*District*	*Cultural association or period*
Damb Zargaran	(73)	Kalat	Anjira III
*Dirgai Shobozai	(14)	Loralai	Medieval
Feroz Khan Ghundai	(12)	Loralai	Medieval
Ghalawa Ghundai	(28)	Loralai	Sassanian, Buddhist
*Ghar	(76)	Kalat	Londo?
Habib Kili	(25)	Loralai	Early Historical (and chert blades)
Handeera Ghundai	(20)	Loralai	Medieval
Hadi Islam-A	(96)	Kalat	Togau, Londo
Hadi Islam-B	(97)	Kalat	Londo
*Haji Qaim Khan	(42)	Quetta-Pishni	Early Historical (and chert blades)
*Hamai Karez	(34)	Zhob	Early Historical
*Jagjai	(40)	Quetta-Pishin	DS II-III, Kot Dijian
*Jori Damb-I	(71)	Kalat	Londo
*Jori Damb-II	(70)	Kalat	Londo?
*Kandai	(26)	Loralai	DS II-III
Kan Mehtarzai-I	(33)	Zhob	Chert blades, handmade pottery
*Kan Mehtarzai-II	(32)	Zhob	Early Historical
*Kaonri	(27)	Loralai	RG II-III, Harappan, Early Historical
Karezagi	(31)	Zhob	KGM III, SJ III, Islamic, Kot Dijian, DS II-III
Karez Site	(59)	Quetta-Pishin	DS II-III
*Kashkai	(9)	Loralai	DS II-III, SJ III
*Kashkai-II	(10)	Loralai	Early Historical
*Kashkai-III	(8)	Loralai	Early Historical
Kasiano Dozakh	(49)	Quetta-Pishin	DS II-III, Buddhist?
Kechi Beg	(66)	Quetta-Pishin	DS I- KGM IV
Khad-i-Kohing	(81)	Kalat	Londo
Khad-i-Tegak	(95)	Kalat	Londo?
*Khoedada	(6)	Zhob	KGM III, RG III
Khwaja Zubair	(77)	Kalat	KGM II,III, Anjira I-IV, Londo, Islamic
Kile Gul Mohammed	(52)	Quetta-Pishin	DS I, Periano A-B, SJ I
*Kirani	(53)	Quetta-Pishin	Early Historical, Islamic
*Kohing-II	(80)	Kalat	Londo, Buddhist?
*Kcuhlaßh	(48)	Quetta-Pishin	DS I-III
*Kuchnai Ghundai	(37)	Quetta-Pishin	SJ III, DS I-III, Sassanian?
*Kuleri Damb-I	(72)	Kalat	Londo
*Kuleri	(75)	Kalat	Londo
Kuzbagh	(57)	Quetta-Pishin	DS I-II
*Lahar	(30)	Zhob	Periano A-B
Lahor	(16)	Loralai	Medieval
Lakhurian	(99)	Kalat	(a gabarband)
Malghori Damb	(78)	Kalat	Anjira III
*Mali	(85)	Kalat	Londo?
*Manzakai	(36)	Quetta-Pishin	Sassanian
Manzarai Tora	(5)	Zhob	(Petrogyphs)
Mata Kaudani	(3)	Zhob	Chert blades, Early Historical
Mobi Damb	(63)	Kalat	DS I-III, Islamic

Sites	*Site Xo. on map*	*Distnict*	*Cultural association or period*
Moghal Ghundai	(4)	Zhob	Periano C
Moghal Qila	(13)	Loralai	Early Historical
Mughal Kot	(23)	Loralai	Medieval
Neghar Damb	(90)	Kalat	Londo ?
*Pathan Kot	(18)	Loralai	Chert blades, Early Historical
Periano Ghundai	(1)	Zhob	SJ I-III, KGM II-III Kot Dijian, Harappan, Medival
Populazi	(47)	Quetta-Pishin	DS I-III
Quetta Miri	(58)	Quetta-Pishin	DS II-III, Kot Dijian, Harappan
Rais Khair Mohammad	(93)	Kalat	Anjira III-IV
Rana Ghundai	(16)	Loralai	Periano A-B, SJ I-III
Riasa Ghundai	(39)	Quetta-Pishin	Sassanian, Early Historical
*Riasa Ghundai-II	(38)	Quetta-Pishin	Sassanian, Early Historical
*Rizvi Karuna	(55)	Quetta-Pishin	KGM II-III, DS IV
Rock Crain	(62)	Quetta-Pishin	Iron Age ?
*Rodinjo-I	(76)	Kalat	Anjira III ?
Radinjo-II	(87)	Kalat	Londo
Rogha Kaudani	(2)	Zhob	Early Historical
Safaid Bulandi	(66)	Kalat	Early Historical
Saiyid Maurez	(68)	Kalat	Anjira III-IV
Salezai	(45)	Quetta-Pishin	Early Historical
Sampur Damb	(67)	Kalat	Early Historical
Sheikh Farid Baba	(43)	Quetta-Pishin	20th century tomb
Sheikh Manda	(51)	Quetta-Pishin	Chert blades, Islamic
Siah (Jatti) Damb	(92)	Kalat	Anjira III-IV
*Sianzai	(74)	Kalat	Anjira IV, Islamic
Sinjawi Ghundai	(19)	Loralai	RG III, Harappan, Sassanian ?
Spina Ghundai (Habibzai)	(45)	Quetta-Pishan	Early Historical, Islamic
Spina Ghundai (Manzakai)	(35)	Quetta-Pishin	DS I-III, Kot Dijian, Islamaic
Spulai Qila	(22)	Loralai	Medieval
Sra Kala	(41)	Quetta-Pishin	SJ III, DS II-III, Kot Dijian, Sassanian
Sur Jangal	(21)	Loralai	Periano A, RG II-III
Sarkh Damb	(91)	Kalat	Medieval, Londo ?
Tegak-II	(94)	Kalat	Londo ?
Togau	(69)	Kalat	KGM II-III, SJ I-III, Anjira I-IIIB
*Tora Dabra	(24)	Loralai	Medieval
Tor Ghundai	(50)	Quetta-Pishin	Chert blades, recent ?
*Wahar	(11)	Loralai	Early Historical
*Watgam	(7)	Loralai	Early Historical

Ethnological Collections

As already mentioned above, Mr. S.M. Ashfaque was associated with the survey team for the study of tribal art and culture and for collecting traditional ornaments, garments and other articles of daily use pertaining to various ethnic groups of northern Baluchistan. Those items which could not be purchased or aquired, were photographed (Pl. XXXVIII A). The scenes of daily life in the remote areas of Baluchistan were also photographed for study, reference and record.

During the second stage of our explorations in Kalat, both archaeological as well as ethnological collections were made by the author. Beautiful pieces of Baluchi jewellery and traditional female and male clothes were purchased or photographed for display in the National Museum and for the regional museums of Pakistan (Pl. XXXIX A and B). A very large collection of old but locally made guns, pistols and swords was presented to the *Central Archaeological Mission* by the civil authorities of Kalat (Pl. XXXVIII B and C). The entire collection of arms numbering over three hundred pieces, was brought to the newly established provincial museum at Quetta where they are now placed on exhibition for the public.

The Department of Archaeology plans to continue explorations in Baluchistan Province systematically in order to record and map all standing monuments, existing settlement sites and other surviving relics of different ages. When the whole or most of the province of Baluchistan is surveyed and the sites are mapped and studied, it would be possible to formulate a programme of intensive field researches involving proper excavations at important sites.

CATALOGUE OF ILLUSTRATED POTTERY AND ANTIQUITIES

POTTERY

NOTE:—1. All pottery is wheelmade, unless mentioned otherwise.

2. Pottery without locus comes from the surface.

3. The bibliographical references to the sites mentioned in the remarks column are as follows:—

Amri = Casal, *Fouilles d'Amri*, 1964; Anjira = De Cardi, in *Pakistan Archaeology*, No. 2, 1965, pp. 86-182; Gumla and Hathala = Dani, in *Ancient Pakistan*, No. 5, 1970-71; Jalilpur = Mughal, in *Pakistan Archaeology*, No. 8 (this volume, above); Kile Gul Mohammed = Fairservis, *Excavations in the Quetta Valley*, 1956; Moenjodaro-I = Marshall, *Mohenjodaro and the Indus Civilization*, 1931; Moenjodaro-II = Mackay, *Further Excavations at Mohenjodaro*, 1938; Nal = Hargreaves, in *Mems. Archl. Sur. of India*, No. 35, 1929; Sarai Khola = Mughal, in Excavations at Sarai Khola, Part II; *Pakistan Archaeology*, No. 8 (this volume); Shahr-i Sokhta = Tosi, in *East and West*, 1968, Vol. 18 (1-2); Sind = Majumdar, in *Mems. Archl. Sur. of India*, No. 48, 1934; Surkotada = J.P. Joshi, in *Journal of the Oriental Institute* (Baroda, 1972), Vol. XXII (1-2); and Waziristan = Stein, in *Mems. Archl. Sur. of India*, No. 37, 1929.

Plate No.	*Site and Locus*	*Fabric colour*	*Surface treatment*	*Decoration*	*Remarks*
XXVIA, 1.	Jalilpur II, layer (2)	Light-red	Pale-red slip	Black and red	
2.	Jalilpur I, layer (5)	Red, handmade	Light-brown wash	Applique pottery bits and mud	cf. Amri IA (Fig. 45, No. 55).
3.	Jalilpur I, layer (6)	Pale	Cream slip	Brown and chocolate	Extremely rare in Period I at Jalilpur
4.	Jalilpur II, layer (2)	Light-red	Light-red slip	Red and black	
5.	Jalilpur II, layer (1)	Light-red	Pale-red slip	Red and black	
6.	Jalilpur II, layer (2)	Light-red, black core	Cream slip	Brown and black	
7.	Jalilpur II, layer (2)	Pale-red	Light-brown slip	Black and dark-red/brown	
8.	Jalilpur II, layer (2)	Light-red	Light-brown slip	Black and dark-red	
9.	Jalilpur II, layer (6)	Red	Buff slip on both sides	Dark-brown/chocolate	
10.	Jalilpur II, layer (1)	Dark-red, over-fired internally	Buff slip	Black	cf. Sarai Khola II, (Pl. XXA, 3 & XXIA, 9) and Gumla II (Pl. 80, 13).
11.	Jalilpur II, layer (1)	Red	Buff slip	Black	
12.	Jalilpur II, layer (2)	Red	Light-brown slip	Black	
13.	Jalilpur II, layer (2)	Light-red	Cream slip	Dark-brown/chocolate	cf. Sarai Khola II, (Pl. XXIB, 5 and 10).
14.	Jalilpur	Dark-red, overfired	Cream and red slip	Black	
XXVIB, 1.	Jalilpur II, layer (1)	Pale-red	Red slip	Black	Flanged vessel cf. Sarai Khola II (Figs. 15 & 16), Gumla II-III (Fig. 16, 93 & Pl. 81), and Hathala (Pl. 68).
2.	Jalilpur II, layer (1)	Red	Red slip	Black	See also Fig. 38, No. 7

Plate No.	Site and Locus	Fabric colour	Surface treatment	Decoration	Remarks
XXVIB, 3.	Jalilpur II, layer (3)	Pale-red	Red slip	White and Black	Grooved ware cf. Sarai Khola II (Fig. 12-13), and Gumla II-III (Fig. 14, 52, 55 & 57; Fig. 24, 211-217).
4.	Jalilpur	Red	Bright-red slip	Black	as above, No. 3.
5.	Jalilpur II, layer (2)	Pinkish-red	Light-brown slip	White and black	
6.	Jalilpur	Pale-red	Light-brown slip	White and black	
7.	Jalilpur II, layer (3)	Light-red	Light-brown slip	White and black	
8.	Jalilpur II, layer (2)	Red	Sand slipped and striated	Red and black	Short-necked Kot Dijian ware cf. Sarai Khola II, (Figs. 17-20) and Gumla II-III) (Fig. 14, 47-51 and Fig. 22, 180-188).
9.	Jalilpur II, layer (2)	Light-red	Buff slip	Brown	
10.	Jalilpur II, layer (1)	Grey	Light-grey slip	Black and grey	cf. Hathala (Pl. 66, 2); and Sur Jangal (*Waziristan*, XX, vi. 8; XXI, 109, iii, 11 and 16).
11.	Jalilpur	Red	Light-red wash	White and black	"Sothi" ware.
12.	Jalilpur	Pale-red	Brown	White and dark-brown	
XXVIIB, 1.	Jalilpur II, layer (1)	Dull-red	Brownish wash	Black	
2.	Jalilpur II, layer (1)	Red	Light-red slip	Black	cf. Fig. 37, No. 1
3.	Jalilpur II, layer (3)	Pale-red	Dull-red slip	Black	cf. Fig. 37, 5.
4.	Jalilpur II, layer (1)	Red	Red slip	Black	cf. Nal (Hargraves, Pl. XVII, 58).
5.	Jalilpur II, layer (2)	Pale-red	Light-brown slip	Black	
6.	Jalilpur II	Light-red	Dull-red slip	Black	See also Fig. 38, No. 8. cf. Togau, (this Journal, XXXVI, 14); and Pandi Wahi (*Sind*, XXVIII, 40).
7.	Jalilpur II, layer (3)	Light-red	Light-brown slip	Black	
8.	Jalilpur II, layer (2)	Pale-red	Light-brown slip	Black	
9.	Jalilpur II, layer (2)	Pinkish-red	Light-brown slip	Black	
10.	Jalilpur II	Red	Smoothed	Black	
11.	Jalilpur II, layer (2)	Red	Light-brown slip	Black	
XXVIIIB, 1.	Zarif Karuna (G-26)	Grey	No slip or wash	Plain surface	
2.	Zarif Karuna (G-6b)	Red	Red slip, burnished	Plain surface	
3.	Zarif Karuna (G-28)	Pale-red, handmade, underfired	Mud wash	Plain surface	
4.	Zarif Karuna (G-2b)	Pale-red, handmade	Mud wash	Plain surface	
5.	Zarif Karuna (G-29)	Grey	No slip or wash	Plain surface	
6.	Zarif Karuna (G-56)	Pale-red	Light-brown slip	Plain surface	
7.	Zarif Karuna (G-27)	Pale-red, grey core, handmade	Light-red burnished	Plain surface	
8.	Zarif Karuna (G-28)	Pale, underfired	No. slip or wash	Plain surface	
XXX, 1.	Khannda	Light-red	Traces of buff slip	Black	Kot Dijian flanged vessel, cf. Sarai Khola type VIII, and Jalilpur II, Pl. XXVIB.

Plate No.	*Site and Locus*	*Fabric colour*	*Surface treatment*	*Decoration*	*Remarks*
XXX, 2.	Pind Nausheri	Light-red	Traces of dark slip		Kot Dijian short-necked ware, cf. Sarai Khola type IX, and Jalilpur II, Pl. XXVIB, 8.
3.	Pind Nausheri	Light-red	Red slip		Grooved ware, cf. Sarai Khola type VII, and Jalilpur II, Pl. XXVIB, 34.
4.	Pind Nausheri	Pale-red	Cream slip	Black	Flanged vessel
5.	Jhang	Light-red, tempered and hand-made	Light-red wash	Straw marks inside	cf. Sarai Khola pottery type V, Fig. 11, 38-40.
6.	Jhang	Greyish-brown	Brown slip	Traces of black paint	Flanged vessel
7.	Jhang	Red	Cream slip	Black	Flanged vessel
8.	Jhang	Pale-red	Red	Black	Flanged vessel
9.	Jhang	Tempered and greyish core. Handmade?	Reddish wash		Probably Sarai Khola type I.
10.	Jhang	Pale-red	Traces of red slip	Black	Grooved ware
11.	Jhang	Red	Red slip	Black	Grooved ware
12.	Jhang	Red	Smoothed	Black	cf. Sarai Khola type IX.
13.	Jhang	Light-red	Red slip	Black lines	
14.	Jhang	Pale-red	Red Slip	Black lines	Dish of an "offering stand", cf. Sarai Khola sub-type XIVA, Fig. 187.
15.	Jhang	Red	Bright-red slip	Black	As above, No. 14.
16.	Jhang	Plae-red, underfired	Mud wash		Knobbed lid, cf. Sarai Khola type XIII.
17.	Jhang	Red	Light-red wash	Black lines	Stem of an "Offering stand".
18.	Jhang	Pale-red	Red slip	Black	
19.	Jhang	Pale-red	Red slip	Black	cf. Sarai Khola type X and Gumla II (Fig. 13, 26-30).
20.	Jhang	Dark-brown, over-fired	Light-brown	Brown and black	
21.	Jhang	Red	Buff slip	Black	Cf. Sarai Khola, sub type IXE.
22.	Jhang	Red	Deep-red slip	Black	
23.	Jhang	Grey	Red slip		Perforated ware
24.	Jhang	Red	Deep-red	Black	
(For Nos. 24 and 26-35, refer to the catalogue of antiquities)					
XXXI, 1.	Gharo Bhiro	Pale-red	Eroded		Stem of an "Offering stand".
2.	Gharo Bhiro	Plae-red	Pale-red wash		
3.	Gharo Bhiro	Light-red	Red slip	Black	
4.	Gharo Bhiro	Red	Red slip	Black	Pan or bowl with string marks on neck externally.
5.	Gharo Bhiro	Dull-red	Cream slip	Red and black	cf. Moenjodaro-I (Pl. LXXX, type F) and Moenjodaro-II (Pl. LV, 26)
6.	Gharo Bhiro	Pale-red	Red slip internally, cream slip outside		Piece of bowl or dish.

Plate No.	Site and Locus	Fabric colour	Surface treatment	Decoration	Remarks
XXXI, 7.	Gharo Bhiro	Pale-red	Cream slip		
8.	Gharo Bhiro	Light-red	Cream slip	String or rope marks externally incised lines inside.	
9.	Gharo Bhiro	Light-red	Eroded		Form commonly associated with the Late Harappan pottery.
10.	Gharo Bhiro	Red	Red slip		Squat "Offering stand".
11.	Gharo Bhiro	Pale, tempered	Red slip	Wavy lines made through the slip	cf. "Reserve Slip" ware (Mo-enjodaro-II, Pl. LXVII, 4) and also at Surkotada in Kutch (Fig. 8, Nos. 6,7,15 and 16).
12.	Gharo Bhiro	Pale-red	Deep-red slip	Black	
13.	Gharo Bhiro	Pale-red	Deep-red slip	Black	
14.	Gharo Bhiro	Dark-red	Deep-red slip	Black	
15.	Gharo Bhiro	Brown, coarse	Eroded	Incised, circle stamped	
16.	Gharo Bhiro	Light-red	Buff slip		Small cup
17.	Gharo Bhiro	Light-red	Cream slip	Black	
18.	Gharo Bhiro	Light-red	Deep red	Black	
19.	Gharo Bhiro	Red/grey core	Deep red	Black	
20.	Gharo Bhiro	Light-red	Smoothed		
21.	Gharo Bhiro	Pale-red	Cream slip		
22.	Gharo Bhiro	Pale-red	Light-red slip	Incised lines	
23.	Gharo Bhiro	Red	Cream slip	Incised lines	
24.	Gharo Bhiro	Pale-red	Light-brown wash	Incised lines	
25.	Gharo Bhiro	Red	Cream slip	Perforated	
26 to 28	Gharo Bhiro	Light red		Perforated	Nos. 27 and 28 are basal pieces.
(For Nos. 29-34, see catalogue of antiquities)					
XXXII, 1.	Periano C	Light-red	Light-brown slip	Black	
2.	Periano B-C	Dark-red	Red and light-brown	Black	
3.	Periano C	Pale-red	Buff slip	Black	
4.	Periano A	Handmade, red and tempered	Brown slip on both sides	Black	
5.	Periano A	Handmade, red and tempered	Brown slip inside and black sepia externally	Black	
6.	Periano A	Handmade, red and tempered	Light-brown slip on both sides	Black on both sides	Illustration shows inner side only.
7.	Periano A	Handmade, red and tempered	Light-brown slip inside and black sepia outside	Black	
8.	Periano A	Red, handmade and tempered	Light-brown on both side	Black	
9.	Periano B-C	Grey		Black	cf. Shahr-i Sokhta (Fig. 12b), and Dabar Kot (Waziristan, Pl. XIV, D. 14).
10.	Periano A	Red, handmade and tempered	Light-brown slip inside and black sepia outside	Black	
11.	Periano B-C	Red	Light-red slip	White and black	
12.	Periano B-C	Red	Bright-red	White and black	

Plate No.	Site and Locus	Fabric colour	Surface treatment	Decoration	Remarks
XXXII, 13.	Periano B-C	Red	Cream and red slip	Red and black	
14.	Periano B-C	Light-red	Bright-red	Red and black	
15.	Periano B-C	Light-red	Red	Red and black	
16.	Periano C	Pale-red	Thin coat of light-red slip.	Black	
XXXIII, 1.	Periano B-C	Light-red	Red slip on both sides	Black	
2.	Periano B-C	Dull-red	Dark-red slip	Black	
3.	Periano B-C	Pale-red	Red slip	Black	
4.	Periano B-C	Pale -red	Red slip	Black	
5.	Periano B-C	Light-red	Deep-red slip	Black	
6.	Periano B-C	Light-red	Deep-red slip	Black	
7.	Periano B-C	Light-red	Dull-red slip	Black	
8.	Periano B-C	Light-red	Red slip	Black	Flanged vessel
9.	Periano C	Pale-red	Red slip	Black	
10.	Periano B-C	Red	Red slip	Black	
11.	Periano B-C	Light-red	Red slip	Black	
12.	Periano C	Light-red	Deep-red slip	Black	
13.	Periano B-C	Pale-red	Dull-red slip	Black	
14.	Periano B-C	Pale-red	Dull-red slip	Black	
15.	Periano C	Light-red	Deep-red slip	Black	
16.	Periano B	Red	Deep-red slip	Black	
XXXIV, 1.	Periano A-B	Handmade, pinkish-red and tempered	Cream slip	Basket-marked	cf. Anjira (Fig. 8, 21-29) and Kile Gul Mohammed II-III (Fig. 52).
2.	Periano B	Light-red	Deep-red slip	Black painting and groovings	cf. Grooved ware of Sarai Khola II, Jalilpur II and Gumla II-III.
3.	Periano B-C	Dull-red	Cream slip	Red band and black lines, and body surface in 'wet' ware style.	
4.	Periano B-C	Pale-red		Wavy lines in relief	Neck of "Circle stamped wet" ware but body in "Reserve slip" style.
5.	Periano B	Light-red	Light-brown slip	Comb incised	
6.	Periano B-C	Pinkish-red		Painted with black and red, and incised.	Kot Dijian neck with 'Reserve slip' technique of decoration.
7.	Periano B-C	Buff	Cream slip	'Wet' ware style	
8.	Periano B-C	Red	Light-brown	Red band and black line	Kot Dijian ware
9.	Periano B-C	Red	Light-brown	Dark-red band and black line with body in 'wet' style	
10.	Periano A-B	Handmade, tempered, coarse ware	Black soot marks inside	Basket marked on inside and bottom	

Plate No.	*Site and Locus*	*Fabric colour*	*Surface treatment*	*Decoration*	*Remarks*
XXXVA	Periano B-C	Red, coarse	Wavy lines in low relief		cf. "Periano Reserve Slip" ware
XXXVI, 1.	Togau	Light-red	Red slip	Black	
2.	Togau	Red	Light-red slip	Black	
3.	Togau	Red	Light-red slip	Black	
4.	Togau	Red	Red slip	Black	
5.	Togau	Red, grey core	Red inside, dark-brown externally	Black	
6.	Tagau	Light-red	Red inside, cream externally	Black	
7.	Togau	Grey core	Red slip	Black	
8.	Togau	Pale-red	Buff slip	Black	
9.	Togau	Pale-red	Cream slip	Thin balck	
10.	Togau	Red	Red slip	Black on buff	
11.	Togau	Coarse, tempered handmade and red.	Red slip	Black	
12.	Togau	Light-red.	Dark-red slip inside and dark-brown outside	Black	
13.	Togau	Light-red, coarse, tempered, handmade.	Red slip on both sides	Black	
14.	Togau	Right-red	Red slip	Black	Design cf. Jalilpur, Fig. 38, 8; and Pl. XXVIIB, 6.
15.	Togau	Pale-red	Cream slip	Black and brown	
16.	Togau	Light-red	Red slip	Black on buff	
17.	Togau	Pale-buff	Dark-red slip on both sides, burnished	Black	
18.	Kaonri	Light-red coarse, tempered	Cream slip	Black	
19.	Togau	Over-fired grey/black	Black/grey slip	White	
20.	Togau	Pale-red	Cream slip	Black	
21.	Togau	Red, coarse, tempered, handmade?	Red slip	Black	
XXXVIIB, 1.	Dabar Kot	Handmade, coarse, tempered	Thin red slip	Black	
2.	Bhut Shamsi	Light-red	Buff slip	Black and red	
3.	Dabar Kot	Buff, coarse	Buff wash		See also Fig. 38, 13.
(For No. 4, refer to the catalogue of antiquities)					
Fig. 37, 1.	See under Pl. XXVIIB, 2				
Fig. 37, 2.	Jalilpur II, layer (1)	Red	Cream slip	Chocolate/brown	
Fig. 37, 3.	Jalilpur II, layer (2)	Red	Light-red slip on body and cream slip near the base	Incised lines, (grooves) and black point	Grooved ware
Fig. 37, 4.	Jalilpur II, layer (2)	Red	Red slip	Black	Short-necked Kot Dijian ware
Fig. 37, 5.	See under Pl. XXVIIB, 3				

Fig. No.		Site and Locus	Fabric colour	Surface treatment	Decoration	Remarks
Fig. 37,	6.	Jalilpur II, layer (2)	Pale-red	Light-red slip	Wavy, thin lines in low relief	Grooved ware cf. Sarai Khola, sub-type VIIA
Fig. 38,	7.	See under Pl. XXVIB, 2				
Fig. 38,	8.	See under Pl. XXVIIB, 6				
Fig. 38,	9.	Jalilpur II, layer (2)	Buff	Buff slip	Black	
Fig. 38,	10.	Sarai Khola II	Red	Red slip	Black on rim	
Fig. 38,	11.	Rana Ghundai	Light-brown	Red slip	Black	
Fig. 38,	12.	Rana Ghundai	Dull-red	Thin buff slip	Black	
Fig. 38,	13.	See under Pl. XXXVIIB, 3				

ANTIQUITIES

Pl. XXVIIA

Jalilpur

1. Terracotta cart wheel with double hub. Period II.
2. Terracotta toy-cart frame. Surface.
3. Underfired terracotta 'cake'. Early levels of Period II.
4. Terracotta bull figurine. Period II.

5 & 6. Terracotta animal figurines with conjoined and short legs. Surface.

7. Terracotta head of a human figurine, perforated ear. Period II.

8 & 9. Terracotta female figurines. Period II.

10. Terracotta female figurines. Surface.

Pl. XXVIIIA

Jalilpur

1 & 4. Chert blades from surface.

5. Carnelian bead. Period II?
6. Lapis lazuli bead from surface. (Similar beads were found in Period II levels at Jalilpur)
7. Bead or spacer of gold sheet with tubular perforation. From the last floor of Period I, layer (4).
8. Stone bead. Period II.
9. Terracotta bead, triangular in section. Period II.
10. Terracotta bead, triangular in section. Period II.
11. Terracotta bead, biconvex and disc shaped. Period II.
12. Bone-point, burned. Period II.

Plate No.	*Site and Locus*	*Fabric colour*	*Surface treatment*	*Decoration*	*Remarks*

Pl. XXX

Jhang (All from surface)

24. Fragment of a shell bangle.
25. Stone celt.
26. Stone celt, flattened sides.
28. Circular terracotta 'cake', straw tempered and grey core.
29. Fragment of an animal figurine.
30. Biconvex terracotta bead.
31. Discoid terracotta bead.
32. Bone point (arrowhead ?).
33. Bone point.
34. Terracotta bangle, red colour
35. Grey terracotta bangle.

Pl. XXXI

Gharo Bhiro (All from surface)

29. Terracotta biconvex ball ?, under-fired.
30. Terracotta 'cake', somewhat squarish and flat sides.
31. Terracotta toy-cart frame, cream slipped.
32. Handmade piece (scoop) with finger marks on both sides.
33. Terracotta ball.
34. Terracotta triangular 'cake'.

Pl. XXXVB

Periano Ghundai

Terracotta female figurines from test trench, layer (5), found in association with Periano black on red slip wares of Periano B-C.

Pl. XXXVIIA

Bhut Shamsi

Almost complete alabaster bowl.

Pl. XXXVIIB

Manzakai

No. 4. A complete bronze vase with fluted body and a loop handle.

THE EARLIEST DISTILLATION UNITS OF POTTERY IN INDO-PAKISTAN

by

S. Mahdihassan

(*Figures* 41 *to* 48)

Distillation is an important device for purifying liquids. The greatest impeuts to this technique was offered by alchemy. But its earliest origin has yet to be established. Considering the possible motives which must have initiated distillation nothing can appear more pressing than want of fresh water on desert coasts. Nomads along the southern coast of Arabira live mainly on fish and even feed their camels with ground date-seeds and fish meal. It may be recalled that when Allexander was returning from India, via Makaran coast, his chroniclers described the local inhabitants as Ichthyophagus or eaters of raw fish. The problem for such nomads would be the procurement of drinking water. Next to them would be merchants undertaking long sea voyages. Here we read in Encyclopedia Brittanica (1) that, according to Aristotle (384-322 B.C.), "pure water was made by the evaporation of sea water." No details are given but Taylor (2;17) informs that, "a sort of sublimation of liquids was occasionally practised. Thus sea water was heated in covered cauldrons and the drops condensed on the lid were collected and used as drinking water". This naturally would represent the simplest procedure of distillation but the yield would be most discouraging. While nomads would be too backward to think of any better device sea merchants must have seriously thought of improvement. With them the actual problem must have been whether it was more practical to distil sea water and carry enough fuel for the purpose, or sufficient water itself to last until the next port. Presumably the latter alternative would have proved the better.

Next to the distillation of sea water was the problem of prparing fermented liquors from raw materials when these, nor their fermentation products, could be

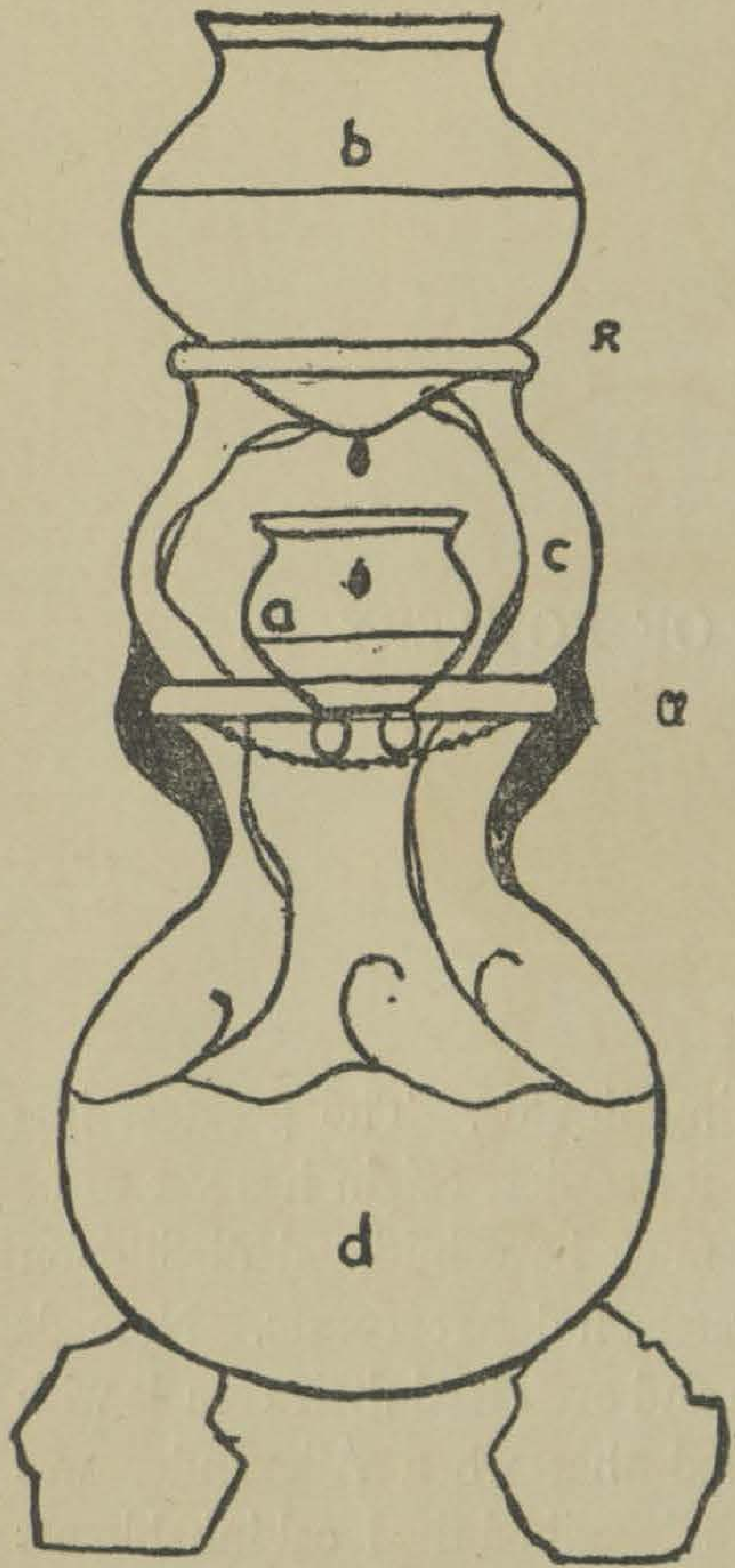


Fig. 41



Fig. 42

directly consumed. In Egypt and Assyria barley was fermented into beer which is consumable. In China there was rice-beer. The tartars fermented mare's milk and drank it as Koumis. Then came fruit liquors like grape-wine in Iran and apple-wine or cider in Europe.

Wines from fruits are richer in alcohol as compared to beers from grains, consequently they have a long storage life; in fact their quality improves with age. Now there are other raw products which can be fermented into alcohol. Among them first to be considered is mahua flowers, Bassia latifolia, and next molasses. Moreover mahua flowers are found all over India and when dry contain about 30 p.c. fermentable sugar, a potential source of alcohol. However the flowers also contain a laxative principle which prevents their serving even as animal fodder. During famines poor folks roast mahua flowers to detoxicate them and even then eat them sparingly. Molasses likewise, when consumed in any large quantity, cause diarrhoea. Moreover when given to cattle beyond a small proportion of fodder they

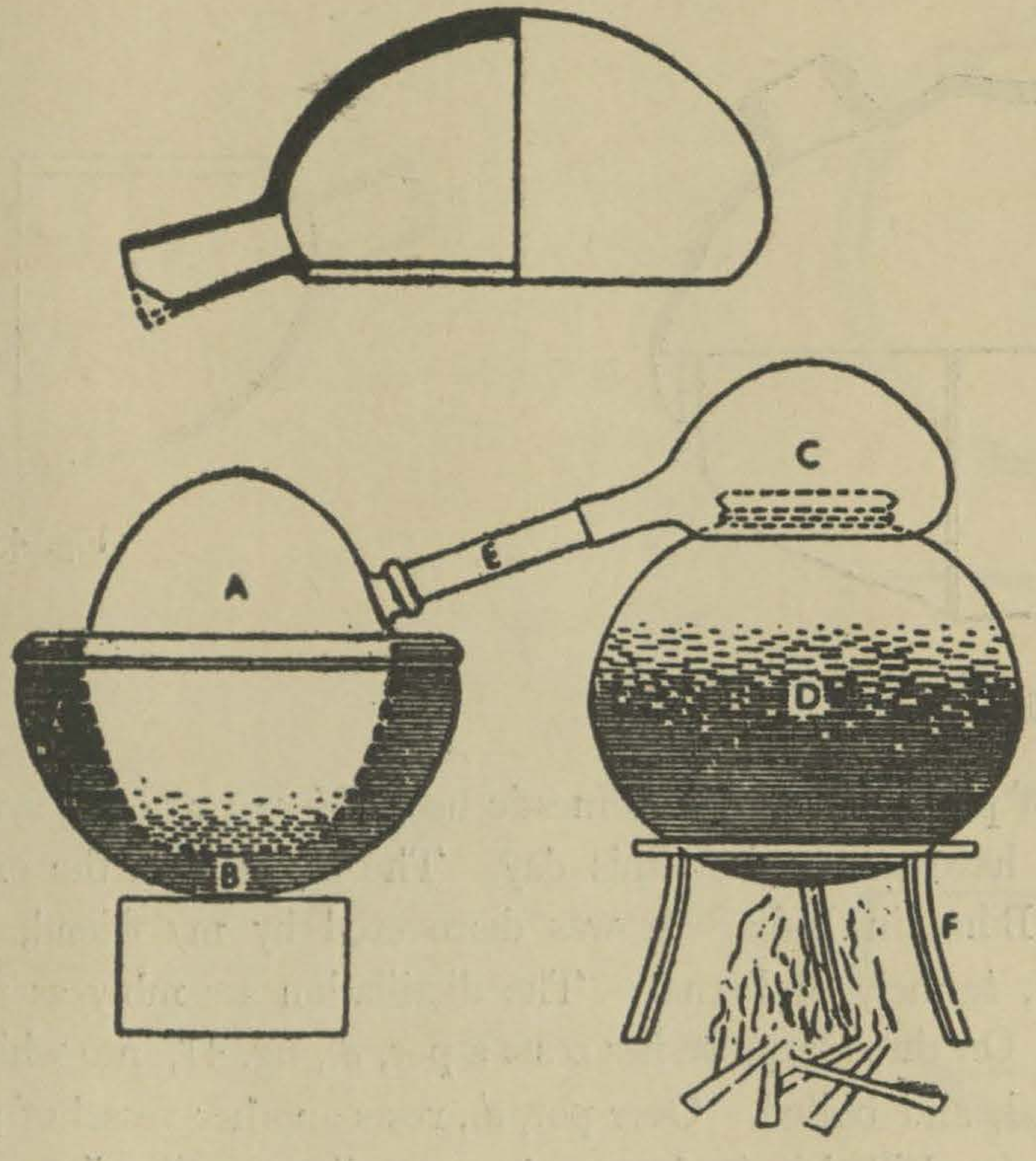


Fig. 43

cannot tolerate it. Correspondingly fermented products of mahua and molasses contain the toxic principles present in them. In such cases there is no alternative than to distil their fermented mash. Thus arose the indispensable idea of alcoholic distillation.

There are many references to the use of beer and wine in ancient Indian literature. Om Praksah (3;152) briefly informs that, "liquors were also made from madhuka, Bassia latifolia, flowers and honey". Distilled liquors were known as Madya, which is mentioned by Susruta, a Master of Indian Medicine, as being in common use in his time. Then Rig Veda speaks of an intoxicating liquor named Sura, a preparation from fermented barley which was subsequently distilled (3; 24). Since Sura was highly intoxicating its use was positively discouraged in Rig Veda. But this indirectly implies that the art of distilling alochohol existed even in those immemorial times.

When we now focus attention on the techinique of distillation or on the actual devices used the sources of information are almost silent. It is the purpose of this communication to explain how distillation must have been carried out by merely as-

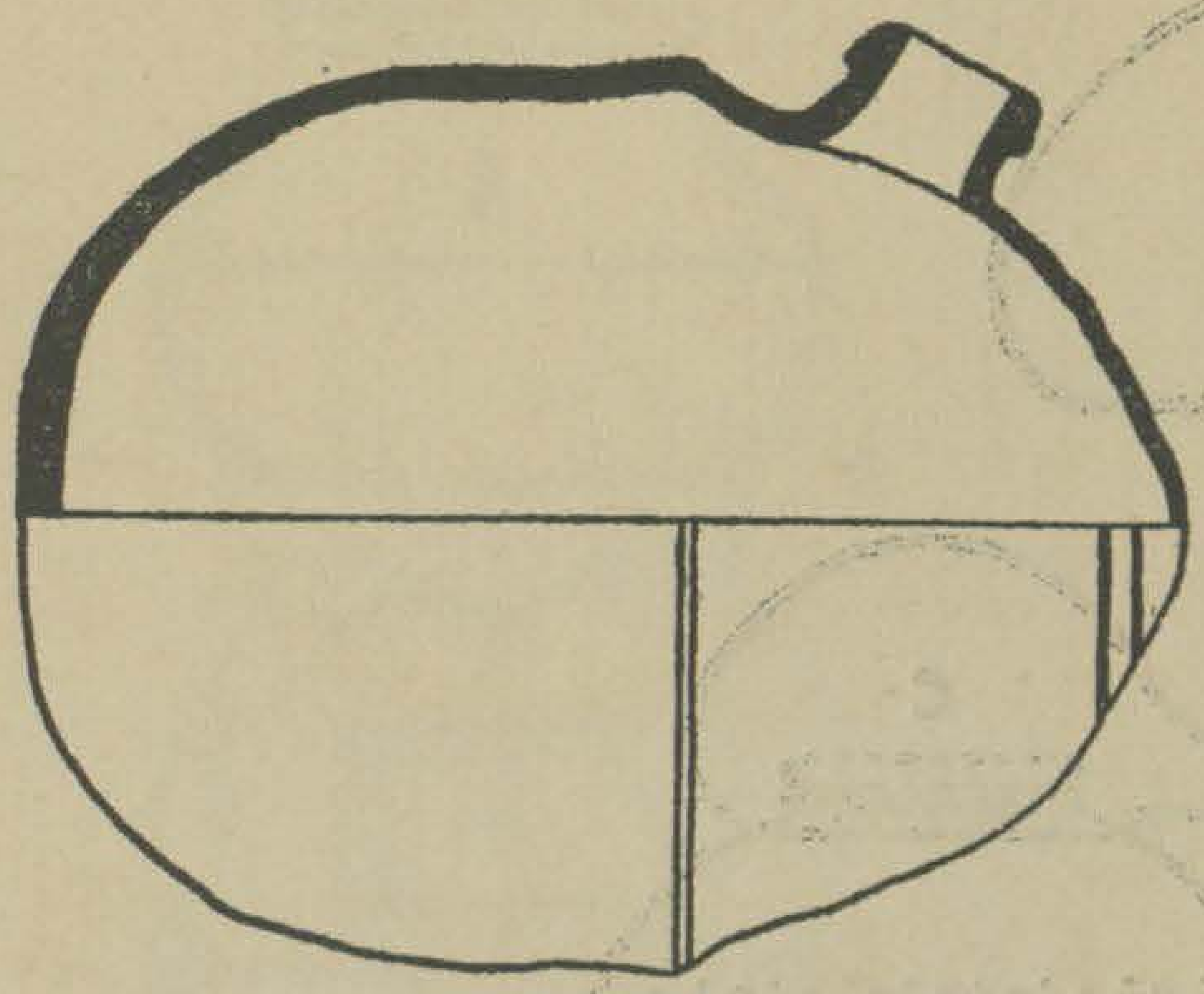


Fig. 44

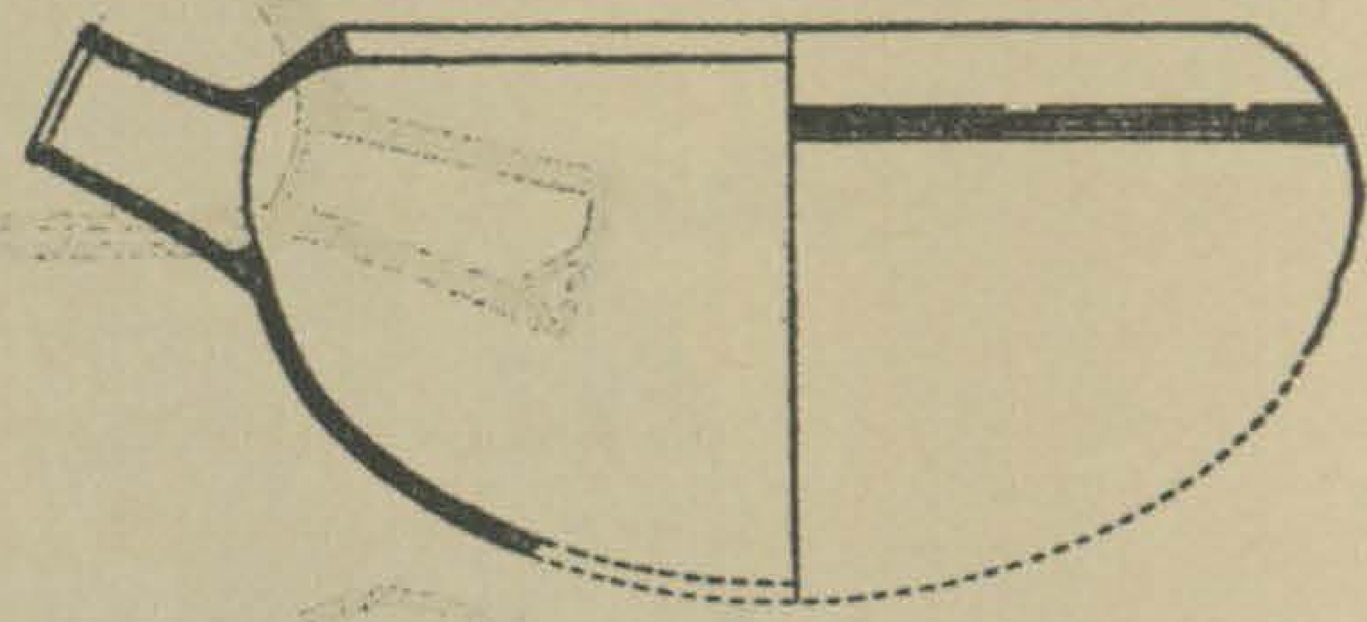


Fig. 45

sembling units of pottery found in domestic use. Here two early systems are being described which have survived to this day. The simplest is the one used by the forest tribes of Bihar in India. It was discovered by my friend, Hakim Moinul Haque of Pabna, formely of Patna. The distillation assembly as reconstructed is shown in fig. 41. On three large stones rests a pot, *d.*, fig. 41, into which the fermented mash is placed, and boiled. Over pot, *d.*, rests another vessel of pottery, *c.*, with perforations or holes drilled in its bottom by an ordinary nail. It may be mentioned in advance that a regular perforated pot has been excavated to which no use has been

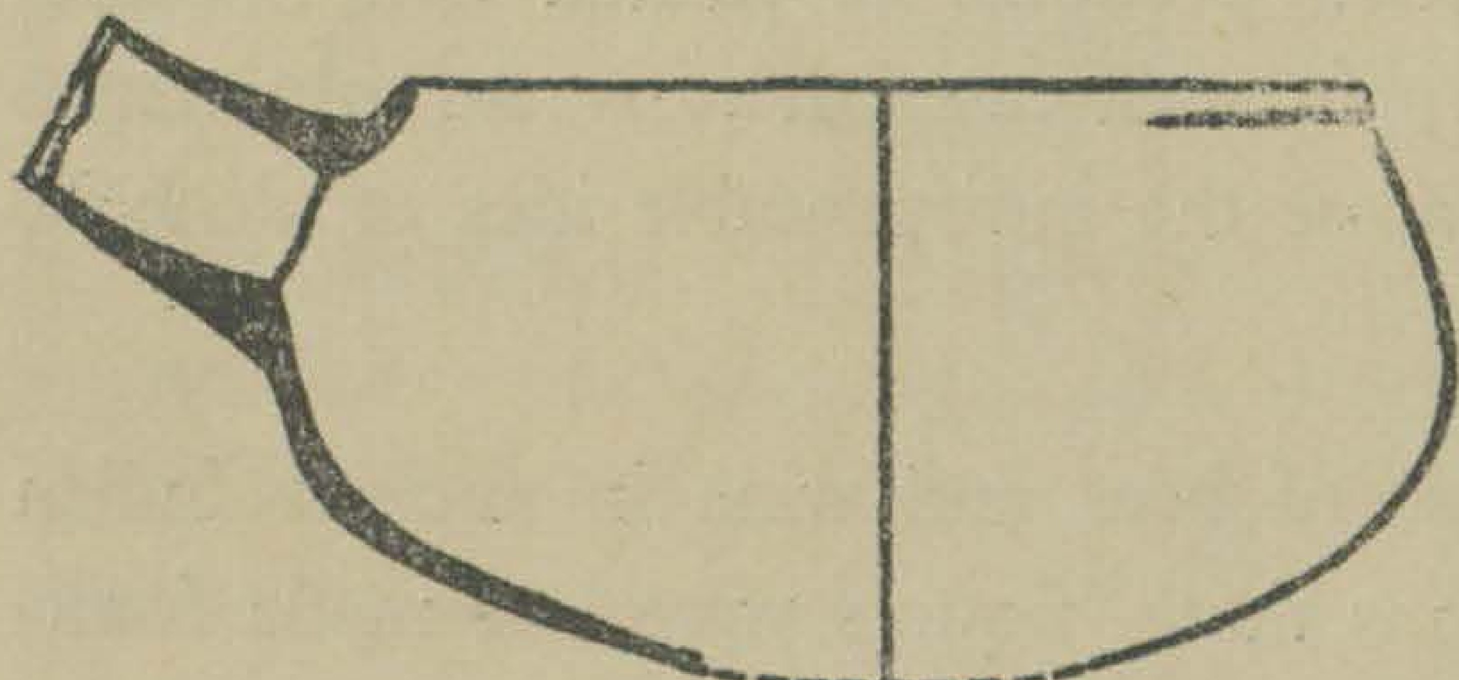


Fig. 46

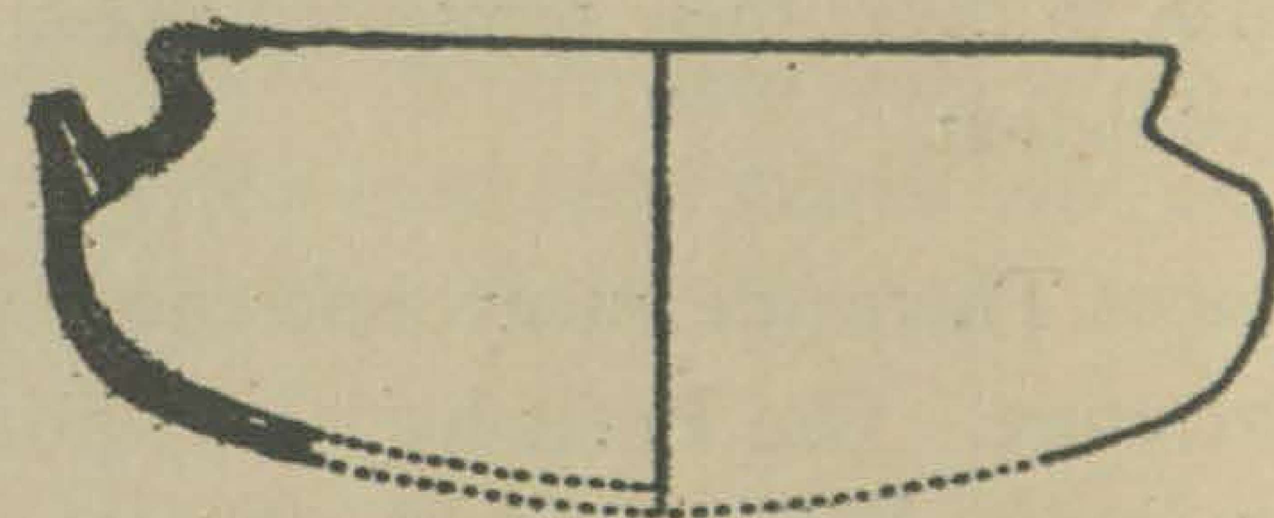


Fig. 47

ascribed, not to talk of such pieces of regular pottery. Apart from it a regular distillation unit, with all items of pottery, has been reconstructed by Marshall from his findings at Taxila. It is therefore probable if not even certain that the perforated pieces of pottery would belong to vessels similar to the perforated pot *c.*, fig. 41. Then through the holes of pot *c.*, vapours of alcohol would pass upwards and strike at the bottom of pot *b.*, filled with cold water. Alcohol condenses at the bottom of pot *b.*, and is shown as a drop, with another falling below into pot *a.*, being the final receiver. Briefly the course alcohol vapours take would be, originating from pot,

d., passing through the holes of pot, *c.*, cooling at the bottom of pot, *b.*, and falling into pot, *a.*, The connection between pots, *d.*, and *c.*, is hermetically sealed with clay, Cl., fig. 41, to avoid warm vapours escaping. But the similar joint between pots, *c.*, and *b.*, is not cemented. On the contrary pot *b.*, rests loosely on the rim, *R.*, of pot *c.* The use of clay here is intentionally avoided. Firstly distillation increases internal pressure which requires ventilation to adjust itself. Accordingly the connection between pots *c.*, and *b.*, is kept loose enough to serve as a safety value. Moreover it allows some alcohol vapours to escape, so that when no trace of alcohol could be detected by smell it would be an indication that practically all alcohol has been distilled. The advantage in assembly, fig., 41, is that all units are of pottery, and such as are already in domestic use. Its disadvantages would be mentioned when we deal with the relatively advanced distillation unit, fi.g 42.

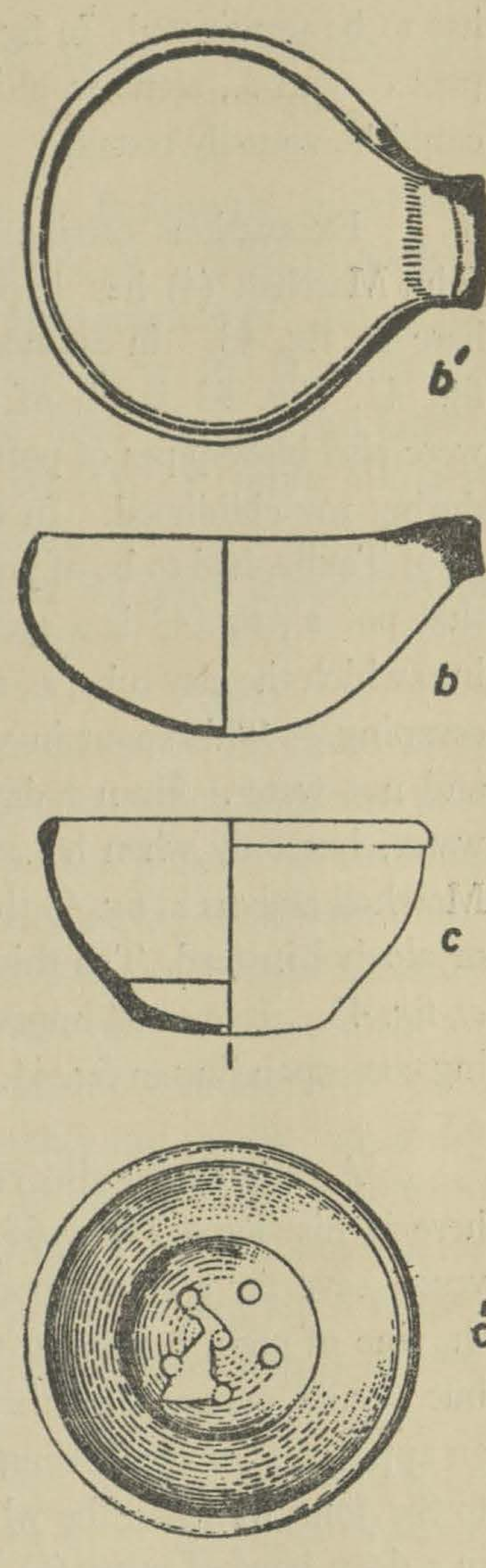


Fig. 48

Some illicit distillers of alcohol in Pabna, Bengla Desh, were using an arrangement photographed in fig. 42. It was recovered by the local Exicse Department, which kindly permited its being photographed. Pot *d.*, fig. 42, is identical with pot *d.*, fig. 41, and is meant for boiling fermented mash. The mouth of pot *d.*, fig. 42, is covered by an inverted pot *c.*, and the connection between pots *d.*, and *c.*, is cemented with clay, *Cl.*, fig. 42. Clay also covers the entire exposed surface of pot. *c.* A hole is made on the side of pot c., to receive one end of a hollow bamboo tube, *e.*, which is wrapped all round with rags, kept wet by sprinkling water from time to time. Vapours leaving pot *d.*, are redirected by pot *c.*, into the bamboo piece, *e.* Chemists would realize that tube, *e.*, is the ancestor of what they know as Leibig's condenser. Alcohol vapours are only partially cooled while passing through the bamboo tube but are properly condensed in pot, *a.*, kept in a large earthen basin or in an aluminium one as was actual the case at Pabna. The vessel, *b.*, would be filled with water to be replaced as it gets waım. In the assembly, fig. 42, pot *a.*, can be conveniently removed aside to taste the drops of distillate and thereby judge better when distillation

has to be terminated. In fig. 41, the smell of alcohol escaping from the space between pots *c.*, and *b.*, alone would be the criterion. On the contrary in fig. 42 the distillate could be actually tasted.

Excavations carried out at Taxila revealed items of pottery which Sir John Marshall (4) has happily reconstructed into a distillation unit, reproduced here as fig. 43. In essence it is identical with the assembly fig. 42, but not with fig. 41. Fig. 43 is all of pottery, even the bamboo tube, *e.*, of fig. 43. Such were also blow-pipes of pottery used in the kitchen and called Phukni in villages during my childhood. In the Punjab bamboo is not prolific and explains how tube, *e.*, of Taxila, had to be of pottery. On careful examination it would be further realized that pot *a.*, fig. 43 is a special construction. It has a narrow hole or rather a spout into which the clay tube, *e.*, can be properly fitted, a provision to prevent alcohol vapours escaping. This spout in vessel, *a.*, at once reveals its use in distilling alcohol and not water. Even today a chemist uses no such closed receiver while distilling water, but only when he tries to recover alcohol or some volatile liquid as distillate. Marshall assigns to fig. 43 the use of distilling water which should be corrected by spirits or alcohol instead. The third item to note in fig. 43 is the distillation hood, or cowl, *c.*, fig. 43. It is a real improvement upon the inverted pot, *c.*, fig. 42, there being nothing corresponding in fig. 41.

A. Ghosh (5) also carried out excavations at Sirkap, near Taxila, and fig. 44, here is his Type 73, p. 65. Upon this he informs that, "Type 73 is a large close vessel save for a small spout on one side. It is made of two pieces luted together, the line of seam being marked by a conspicious ridge. It is a highly specialized type but occurs occasionally throughout the occupation of the site. It may be part of an apparatus for condensing water (which Marshall had suggested before). According to Sir John Marshall the whole apparatus consists of a cooler or condenser (*a*), resting in a deep bowl of water (*b*), a condensing cowl (*c*), which fitted over the top of a handi (or pot, *d.*) containing water (or fermented mash to be distilled), a pipe (*e*) connecting cowl (*c*), condenser (or receiver, *a.*), and a tripod on which the handi (or pot *d*) rested with a fire beneath it. The steam thus generated passed into the cooler and was condensed. The present vessel (fig. 44) is the condenser (*a*, fig. 43) of Marshall's series." From Ghosh has also been taken fig. 45, here. It is his Type 74, p. 65, being identical with item *c.*, fig. 43 of Marshall. In the above description Ghosh has given a sketch of this hood or cowl and its identity with Marshall's previous finding which has been shown again by itself on the top in fig. 43. Before proceeding further we may note that Marshall takes his distillation unit to 200 A.D. and the same applies to Ghosh's

items, figs. 44 and 45, since their localities are Taxila and Sirkap respectively, and both belong to the Gandhara period.

Now Wheeler (6) has discovered primitive culture at Brahmagiri in Mysore State which he designates as "Brahmagiri Stone Age Culture A". This is Megalithic culture existing from the early first millenium B.C. to the beginning of 2nd Cent. B.C." Here he discovered Type 34, p. 226 reproduced here as fig. 46. It is obvious that this cowl or hood is the same as fig. 43 (*c*) and fig. 45, from Marshall and Ghosh respectively. Wheeler's fig. 46, from Mysore is dated 100 B.C. or three hundred years earlier to the objects at Taxila. The history of narcotics reveals a natural lust on the part of man for alcoholic drinks and would explain an early distillation of fermented Mahua flowers even in ancient Mysore.

Panigrahi (7) has reported findings from his excavations at Ahichchatra in Bareily Dt. Fig. 47 here is taken from his Type 13, p. 43, upon which he writes that, "it has a short slightly out-turned rim and a small spout probably meant as an outlet for vapour. It is curious that the cooking vessels in the early period are always found with short rims or no rim at all, a deficiency which must have been a serious handicap in use". Not appreciating that the hood, fig. 47, represents part of an assembly for distillation he mistakes it for a cooking vessel and proceeds to criticise it as such. Fig. 47, is identical with fig. 43*c*. We have further to qualify his words "outlet for vapours" as "outlet for alcohol vapours", to bring fig. 47 in line with figs. 45, 46 and 43*c*. The date Panigrahi assigns to his cowl is between B.C. 300-200 which is even earlier than that of Wheeler's objects from Mysore of 2nd Cent. B.C. Panigrahi's finding would be nearest to the age of Rig Veda when distilled liquors were actually known.

Even Panigrahi's cowl cannot be a component of the earliest distillation assembly in the past. It is not the simplest of its kind for pot *c*., of fig. 42, is superior, in so far as it is nothing else than an ordinary pot inverted. But when such objects are excavated who could interpret them as having been used in distillation. In as much as assemblies, figs. 41 and 42, have both survived to this day, we are justified in concluding that they must have existed also during vedic times. However what we can legitimately do is to look for special improvements of items seen in the units figs. 41 and 42. Focussing our attention on fig. 41, we find pot, *c*., is made porous thereby assigning it a special feature. But it would be also appreciated that it would be easier for a potter to construct a pot with holes at the bottom than for a distiller to pierce holes in a pot without breaking it. Now such a manufactured pot with holes has been excavated by Lal (8) at Hastinapura, Meerut Distt. He explains it as "a grey ware

with six perforations", illustrating it as Type XXVII, p. 58, without however being able to suggest any role for it. It is offered here as fig. 48*c'*., also shown from above as fig. 8*c*.

Moreover there can be a further improvement in assembly fig. 41. The topmost vessel is a broad mouthed pot in order to enable a smaller pot to be dipped for emptying warm water. Instead, a dish like bowl, again of pottery, can be easily tilted if it is deep enough to rest well on another pot. Warm water can then be decanted using, if required, a long wet cloth hanging below to serve like a siphon. Such bowls are however used for washing rice and grains like lentils. Such a bowl has been discovered by Lal (8) at Hastinapura and illustrated by him as type XXIV, p. 58 which is not reproduced here. According to him it is "grey ware with an inturned rim distinguished by a lip. Type is abundant at Kausambi and Pataliputra". The record of such abundance would easily support its primary use as kitchen utensil. Nevertheless as replacing item *b*., fig. 41, it would certainly be an improvement in this distillation assembly.

Wheeler (6) has also found a similar bowl, at Brahmagiri, and illustrates it as P. 16, p. 218. This has a broader lip and is again not reproduced here. But there is another also discovered at Brahmagiri, his type, T44, p. 228, which is both deeper and has a smaller lip, being offered here as fig. 48*b*., also seen from above as 48*b'*. Between pots *b*., and *c*., in fig. 41, lies pot *a*., the receiver of alcohol resting on stones. Placing the porous pot *c*., fig. 48, below bowl *b*., of fig. 48, they can be a suitable substitute of a receiver-pot *a*, fig. 41, now provided with protrubances or legs to dispense with the smaller stones, fig. 41. Such a pot *c*, 25*a*, p. 213, with three legs, is also among the potteries unearthed at Brahmagiri. Even today such pots are seen and accordingly its reproduction from Wheeler has been considered superfluous. Thus replacing modified substitutes for the most primitive units in fig. 41 we shall have the following improvements. In fig. 41, pot *b*., would be replaced by bowl *b*., fig. 48; in fig. 41 pot *c*., by porous pot *c*., fig. 48; in fig. 41, pot *a*., by a pot with three legs, not illustrated here. The items discovered by archaeologists would challenge interpretation unless we know that the assembly fig. 1 has actually survived.

More than fig. 41, the later assembly fig. 42, shows a better arrangement of distillation units. Its inverted pot *c*., has been developed into cowl or hood, *c*., fig. 43. This has been further improved by a metallic construction, called Aludal, and used by Arab alchemists and those of Europe during medieval ages. It is still in use by distillers of rose water and such drugs, even in Karachi, also reported earler. Really speaking the great impetus to distillation came from alchemy. Taylor (2;37) rightly

maintains that, "nothing that can really be called distillation was known before the time of the alchemists". This is because the alchemists considered their distillates nothing short of vital force or a life-giving element. In English distilled alcohol is called "Spirits of Wine" or simply Spirits or Soul. In Persian there is the corresponding term for the distillate, Ruhe-Gulab, the "Spirit of Rose". In early days the terms "Spirits" and "Ruh" were taken literally and accordingly much importance was attached to distillates.

Finally we may inquire when alcohol was first distilled in Europe. Gallen, who lived in Rome about 150 A.D., knew no distilled drug, like rose-water. Before Galen drugs were boiled and decocted every time the patient was recommended to take medicine. Later they were soaked in wine and such a medicated wine was taken in doses prescribed. From such preparations we have our Galenicals which are alcoholic extracts of vegetable drugs, and these came into use when alcohol itself was regularly distilled. From Read (9) we learn that "distilled wine, probably in Italy in the 9th or 10th Cent. A.D., made the discovery of pure alcohol." On the contrary we find distilled alcoholic drinks are mentioned in Rig Veda and archaeological findings of some of the units constituting distillation assembly can be assigned the earliest date of 300 B.C.

FIGURES

Fig. 41. The simplest distillation assembly, entirely of pots, as sused by a forest tribe of Bihar.

Fig. 42. Distillation assembly again comprising of pots used by illicit distillers of Pabna.

Fig. 43. Distillation unit entirely of pottery reconstructed from findings at Taxila by Marshall (3), dated 200 A.D. Pot (*d*) is the boiler of fermented mash; (*c*) is hood or cowl for redirecting vapours, (*e*) is a hollow tube for leading vapours, partially cooled, into the receiver (*a*), kept cold with water in a basin or pot (*b*). Similar markings apply to all other figures. A cowl or hood is seen enlarged above, in fig. 43.

Fig. 44. Receiver pot, similar to (*a*), fig. 43, discovered at Sirkap by Ghosh (5), his type 73, p. 65, Dated 200 A.D.

Fig. 45. Cowl or hood similar to item (*c*), fig. 43, from Sirkap, excavated by Ghosh (5), his type 74, p. 65, Dated 200 A.D.

Fig. 46. Cowl or hood, like item (*c*), fig. 43, from Brahmagiri, Mysore State, excavated by Wheeler (6) his type 34, p. 226. Dated 100 B.C.

Fig. 47. Cowl, like item (*c*), fig. 43, from Ahichchatra, Bareilly Dt., recovered by Panigrahi, being his type 13, p. 42, Dated 200 B.C.

Fig. 48. *b*., and *b'*., a deep pottery bowl, replacing pot (*b*) fig. 41, and on being tilted, enabling warm water to be decanted without being lifted. Discovered at Brahmagiri by Wheeler (6), as his type 44 p. 228. Fig. 48*c* and pot with holes at bottom allowing alcohol vapours to pass, replacing pot (*a*), fig 41. Excavated at Hastinapura by Lal (8), as his type XXVII, p. 58. Dated 300 B.C.

SUMMARY

Two primitive systems of distillation, have survived, consisting of items entirely of pottery. Even earlier some items were replaced by improved units. Some of them are discovered but archaeologists have not found their uses. Their findings are incorporated and roles assigned to their finds. Archaeologically the earliest finding is dated 3rd Cent. B.C. We can conclude that with such units distillation was carried out even in Rig Vedic times when distilled liquors were actually known.

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A RARE MOGHUL MANUSCRIPT—AKBAR'S COPY OF FAIZI'S NAL-WA-DAMAN

by

Prof. (Dr.) Muhammad Baqir

(Plates XL—XLV)

Strange though it may seem Akbar did pose for his court artist for the miniatures that were being painted for inclusion in manuscripts prepared for the Imperial Library. 'Persian books', says the court-chronicler Abul Fazl, 'both prose and poetry, were ornamented with pictures, and a very large number of paintings was thus collected. His Majesty himself sat for his likeness, and also ordered to have the likenesses, taken of all the grandees of the realm.' (*Ain*, 1, 115).

The traditional Muslim aversion to the painting of human figures was not absent in the Mughal court. That was why Abul Fazl had to defend his Royal master in a diplomatic way saying, 'Bigoted followers of the letters of the law are hostile to the art of painting; but their eyes now see the truth. One day at a private party of friends, His Majesty who had conferred on several the pleasure of drawing near him, remarked: "There are many that hate painting; but such men I dislike. It appears to me as if a painter had quite peculiar means of recognising God; for a painter in sketching anything that has life, and in devising its limbs, one after the other, must come to feel that he cannot bestow individuality upon his work, and is thus forced to think of God, the Giver of life, and will thus increase in knowledge".

We may not agree with the philosophy of Akbar as explained by Abul Fazl. The manuscript of Faizi's *Nal-wa-Daman*, which belongs to Sahibzada Ahsan Ali Khan of Kunjpura at present residing at Khanewal, is positive proof that this copy was prepared for the library of Emperor Akbar. It answers exactly to the description given by Abul Fazl with regard to the ornamention of Persian books at the court.

In the opening painting we find Akbar seated on the throne among his grandees and Faizi is seen presenting his book, which was written and ornamented to the order of the monarch. The fact of ornamentation of the manuscript is recorded by Abul Fazl, who says: 'the number of master-pieces of painting increased with the encouragement given to the art....the story of Hamzah was represented in twelve volumes, and clever painters made the most astonishing illustrations for no less than one thousand and four hundred passages of the story. The *Chingiznameh*, the *Zafarnameh*, the *Razmnameh*, the *Ramayan*, the *Nal-wa-Daman*, the *Kalileh Dimneh*, the *Ayar Danish*, etc., were all illustrated.'

Giving complete details of the incident another contemporary writer Mulla Abdul Qader Badayuni records: 'in the beginning of the month *safar* of this year (1003 A.H.—October 1594 A.D.) the Emperor crossed over the river Ravi, and spent 24 days in amusement and hunting in the neighbourhood and then returned. At this time the King of Poets (Faizi) was ordered by the Emperor to compose the *Panj-Ganj* and in the short space of more or less five months, he finished *Nal-wa-Daman* (based on the popular romantic legend) and composed it in 4,200 verses and presented it to the Emperor as a gift, together with some ashrafis. It was very much appreciated by the Emperor and he ordered it to be transcribed and illuminated and read as an example by Naqib Khan. The first couplet of the book is the following:

O in the search of thee from the beginning
The 'Anqa' of sight is soaring high.

'And verily it is a Masnavi the like of which for the last 300 years since Amir Khusru no poet has composed.'

FAIZI

Shaikh Abul Faiz Faizi, one of the most learned men of Akbar's court, was the eldest son of Shaikh Mubarak of Nagor, and elder brother of famous Abul Fazl. He was born at Agra in A.H. 954 (A.D. 1547). His accomplishments in Arabic literature, the art of poetry and medicine were very extensive, and he used to treat poor people generously. As a youngman he was regarded with suspicion and ill-treated by the orthodox in Agra on account of his Shiah proclivities. Once when he was summoned to court the orthodox believed or affected to believe, that he was to be called to account for his heterodoxy, and carried him to court by force. He was, however, very favourably received by Akbar, and within a short time became his constant companion and friend. He was instrumental, in A.H. 986 (A.D. 1578-79), in bringing about the downfall of Shaikh Abdun Nabi the Sadr, who had been one of his perse-

cutors. It is said that Faizi wrote a hundred and one books. In 1586 he planned a *Khamsah*, or collection of five epics, in emulation with the *Khamsah* of Nizami. The first, *Markazul-Adwar*, was to consist of 3,000 verses and was to be modelled on Nizami's *Makhzanul-Asrar*. The *Sulaiman-wa-Bilqis* and the *Nal-wa-Daman* were to consist of 4,000 verses each and were to vie with the *Khusrau-wa-Shirin* and the *Laila-wa-Majnun*; and the *Haft Kishwar* and the *Akbarnama*, each of 5,000 verses, were to counterpoise the *Haft Paikar* and the *Sikandarnama*. This great undertaking was never completed. Portions were written and in 1594-95 A.D. Faizi, encouraged by Akbar, completed the *Nal-wa-Daman* and presented a copy to the Emperor. The *Markazul-Adwar* appears also to have been completed. Faizi translated from Sanskrit the *Lilavati*, a work on arithmetic, and the *Bhagavad Gita*. Faizi was sometimes employed as tutor to the princes, and sometimes acted as an ambassador. He suffered from asthma and died on Safar 10, A.H. 1004 (Oct. 15, A.D. 1595). He was an adherent of Akbar's Din-e-Ilahi.

NAL-WA-DAMAN

The original story of *Nal-wa-Daman* is recorded in the *Mahabharta*, but Faizi has given his own version preserving the original contents of the ancient romance. King Nal ruled over India with Ujjain as his capital. Damyanti (Daman of Faizi) was a beautiful princess of Deccan. One day, while walking in the royal gardens, Nal saw a number of swans with golden wings. A swan, after being caught, purchased his freedom on a promise to carry love letter of Nal to Damyanti. Later on at Swayamwara Damyanti selected Nal as her husband, but on losing every thing in gambling to his brother Pushkara, Nal was driven to exile along with his newly married wife. In exile Nal, being very much oppressed with his own grief, deserted Damyanti. After a series of misfortunes both of them were brought together, when they also regained their throne. Having lived together for some years Nal abdicated in favour of his son and died soon after. Damyanti performed sati and burnt herself to death along with her husband.

THE MANUSCRIPT

The manuscript under discussion is 28 cm x 17 cm, comprising 162 folios with 14 lines to a page. The lines are 9 cm. long. It is written in beautiful Nasta'liq. There are gold margins on all pages with gold sprinkled on the text portion. The central margin is paginated, which is an uncommon feature. Folios 1/b and 2/1 are illuminated with gold, and fairies and birds are painted on the margin. Extremely delicate colour combinations are employed in painting birds. The headings are written in red, green, blue and gold.

MINIATURE PAINTINGS

There are 18 miniature paintings in the manuscript, all done exquisitely. The second miniature painting (f. 43/a) viz. Raja Nal on the throne in his court is autographed by the painter.

Abul Fazl talking about the art of painting observed. 'His Majesty, from his earliest youth, has shown a great predilection for this art, and gives it every encouragement as he looks upon it as a means, both of study and amusement. Hence the art flourishes and many painters have obtained great reputation. The works of all painters are weekly laid before His Majesty by the *Darogahs* and the clerks, he then confers rewards according to excellence of workmanship or increases the monthly salaries. Much progress has been made in the quality of commodities required by painters, and the correct prices of such articles are carefully ascertained. The mixture of colours has especially been improved. The pictures thus receive a hitherto unknown finish. Most excellent painters are now to be found, and masterpieces, worthy of a Bihzad, may be laid beside the wonderful works of the European painters who have attained world-wide fame. The minuteness in detail, the general finish, the boldness of execution, etc., now observed in pictures, are imcomparable; even inanimate objects look as if they had life. More than a hundred painters have become famous masters of the art, whilst the number of those who approach perfection, or those who are middling, is very large.'

Abul Fazl has picked up and named only 18 contemporary artists out of the few hundreds he records to have existed during his time. Our atrist Salim Quli alias Imam Quli is, unfortunately, not mentioned by Abul Fazl, nor I have been able to find any details about him from any other source. There is a copyist of the name of Imam Quli Kunduri b. Daulat Qadam, who wrote manuscript No. 1417, preserved in the India Office Library, in 1006 A.H. i.e., three years after the *Nal-wa-Daman* of Faizi was completed. But it cannot be asserted with certainty that the artist of *Nal-wa-Daman* is the same person who wrote the India Office Library manuscript. May be some day some body could throw more light on Salim Quli.

NOTES ON THE RAZMNAMA OF 1616 A.D.

by

F. S. Aijazuddin

(*Plates XLVI—XLVIII*)

The Mughal dynasty moved like a constellation through the historical firmament of this sub-sontinent, twinkling from the distance as it furthered from each succeeding Age. Within the system of each reign a Sun-King from his pivotal position commanded the movements of his satellites and subjects as they rotated in an orbit of obedient allegiance. His whims could become the law, his decisiveness the speed of justice, his opinions the social code and his ambitions the perimeter of State policy. Similarly his personal religious belief could expand as it did in the case of Emperor Aurangzeb (1658-1707) into a public expression of brittle extremism, and his tolerance could, and did in the case of Emperor Akbar (1556-1605), become the pervasive spirit of conciliation and co-existence.

It is a curious fact that Akbar, grand-son of poetic Babar (1526-1530) and son of the equally literate but less expressive Humayun (1530-1556) could hardly read or write. Nevertheless he attacked ignorance both in himself and in others with the same fervid virility with which he conducted his military campaigns while consolidating his empire. Restless in his pursuit of knowledge, he used his literate contemporaries, such as the articulate Abu'l Fazl, as he might have his own pen—to record his opinions and attitudes. The Emperor, we are told by this faithful chronicler, prefers the art of writing to painting, for to him 'pictures are much inferior to the written letter in as much as the letter may embody the wisdom of bygone days and become a means to intellectual progress.[1]

Already, one is aware of the nascent classicist in Akbar and of his keeness to perpetuate a heritage of literature for his own time as much as for his successors.

It was almost as if he felt unsatiated yearnings for a stability and continuity of tradition that hereditary monarchs deem their right.

Abu'l Fazl's famous flattering account of his Emperor's receptive attention to the recital of books needs to be tempered though by the less-quoted opinion of Badayoni, who approached the task of translating one of the popular Hindu epics, the *Mahabharat* into Persian as the *Razmnama* with something less than Abu'l Fazl's zeal:

> "For two nights His Majesty himself translated some passages of the Mahabharat, and told Naqib Khan to write down the general meaning in Persian; the third night he associated me with Naqib Khan; and, after three or four months, two of the eighteen chapters of these useless absurdities—enough to confound the eighteen worlds—were laid before His Majesty. But the emperor took exception to my translation, and called me a *Haramkhur* and a *turnip-eater*, as if that was my share of the book. Another part was subsequently finsihed by Naqib Khan and Mulla Sheri, and another part by Sultan Haji of Thanesar; then Shaykh Fayzi was appointed, who wrote two chapters, prose and poetry; then the Haji wrote two other parts, adding a *verbal* translation of the parts that had been left out. He thus got a hundred *juz* together, closely written, so exactly rendered, that even the accidental dirt of flies on the original was not left out; but he was soon after driven from Court, and is now in Bhakkar. Other translators and interpreters, however, continue nowadays the fight between Pandus and the Kurus. May God Almighty protect those that are not engaged in this work, and accept their repentance, and hear the prayer of pardon of every one who does not hide his disgust, and whose heart rests in Islam; for 'He allows him to return to Him in repentance.' The Razmnana was illuminated, and repeatedly copied; the grandees were ordered to make copies, and Abu'l Fazl worte an introduction to it of about two *juz*, etc."[2]

The translation prepared for Akbar was presented to him in 1584 A.D. and has been commonly regarded as the fine version in the Jaipur royal library.[3] The manuscript bears the signatures of some of Akbar's artists, particularly Basawan and Daswanth who are mentioned appreciatively by Abu'l Fazl in his chapter on the royal atelier.[4]

Of the many copies 'ordered' to have been made, one almost certainly must have been in the possession of 'Abd ar Rahim, who was one of the prominent

generals and aesthetes at Akbar's Court.[5] 'Abd ar Rahim, like his father Muhammad Bairam, had been specifically honoured with the title of Khan-e-Khanan (Lord of lords) by Akbar. He is known to have served as Governor of Jaunpur in Gujerat, where he acquired a copy of a *Khamseh* of Amir Khusrau which he inscribed in his own hand.[6] Later, he led the Mughal troops into Sind and resided for a while at a camp in Thatta.[7]

Another manuscript, also owned by 'Abd ar Rahim, provides specific evidence of the duplication of important manuscripts from the Imperial Library. The inscription appears on the fly-leaf of an incomplete Persian translation of the *Ramayana*, and records that the manuscript was copied from one belonging to Akbar himself. In its original state it contained 135 paintings of which 130 have survived and took eleven years from 1587-1598 to be completed.[8] Out of the artists whose names have been mentioned either on the cover leaf to each miniature or on the miniature itself, it is the name of the most productive of them—Fazil, who signed 10 pictures, that is of interest for his name provides a clasp between these manuscripts from the 'Abd ar Rahim library and a scattered version of the *Razmnama*, some folios of which also bear Fazil's signature.[9] The signature of a second artist Abdulla is discernible on a separate folio and with it a date, 1025 A.H., i.e. 1616 A.D.[10] No more is known of Abdulla than of Fazil for neither are they mentioned in the list of artists prepared by Abu'l Fazl (which might have indicated that they were working in the Imperial Library and therefore have been making copies at the same time as preparing original manuscripts) nor by any patron. The dating of 1616 A.D. would place this *Razmnama* within 'Abd ar Rahim's lifetime, and if it is regarded as the date of completion rather than of commissioning the substantial part of its preparation fell within the first decade of the reign of the Emperor Jehangir (1605-1628). Stylistically the manuscript is closer to the Akbar period and is more a repetition of an earlier style dominated by Persian idioms than a herald of a new wave of the artistic self-confidence seen in paintings done during Jehangir's period.

Known folios of this manuscript are now dispersed in various collections.[11]

Out of the three folios acquired by the Lahore Museum in 1923, only one of them retains any identifying inscription of text from the *Razmnama*. All three folios appear to have been mutilated to some extent by overpainting on portions of the picture, or of a confusing collage of fragments from other folios. This is particularly clear in Fig. 1, a folio that was sent to India after the division of the collection of the Lahore Museum between the Governments of East and West Punjab.[12] The

miniatures are mounted on a card and contained within an inner brown border with golden rules. It seems that this mounting was done some time after the dissection of the manuscript and with a view to preserving loose and damaged illustrations. There is no recorded trace of the text pages of the manuscript.

The more complete of the two remaining folios in the Lahore Museum collection[13] is of an incident from the *Aswamedhika Parva*, the 14th book of the *Razmnama*. The Raja of Chitapur had ordered as he left his city for battle that anyone who did not accompany him would be boiled in a cauldron of oil as punishment for his tardiness. The Raja's son Sadhanwa neglected to follow his father's instructions to the letter, delaying for a while to say farewell to his wife, mother and sister. The Raja's command had to be carried out and Sadhanwa was duly immersed in a cauldron. The gods however took compassion on Sadhanwa's predicament and on hearing his timely prayer cooled the oil to a tolerable tepidness. Sadhanwa can be seen crouched in the well of the cauldron while a number of nobles (but not his father, oddly enough) stand in a row in various attitudes of chagrin and helplessness. A second row of men is visible in the middle-ground, blocked by a panel intended to contain the text but since overpainted with some incongruous ducks floating in a rectangular pond. Beside it on the left, a man breaks faggots in a vain mortal effort to replenish the fire beneath the cauldron (Fig. 2).

The second folio[14] depicts a battle scene in which a helmeted warrior (probably Bhima, the second of the five Pandava princes) smashes the skull of his fallen adversary with a golden club (Fig. 3). To the left two soldiers run for their lives and in the foreground, almost as if the setting of the scene was a cliff-edge, a chariot is shown falling head-long downwards. From all indications, the text of this folio would have been lengthy, for the overpainting and super-imposition of fragments cover almost one-third of the total area of the page.

The general tone of both folios is matt and simplified. Decoration is restricted to a minimum, for example to the rug of the chariot or on the *patka* borders of the nobles. Their jamas are unworked and modest. The landscape with its Persian-pink rocks is scraped to the top of each page and the middle ground spattered with shrubs. It is clear that the aim of the artist had been to repeat the spirit rather than re-create the form of its sumptuous original.

Certain questions emerge unexpectedly, like the sundry characters in the *Razmnama* itself, flickering for solution. For instance the locale of the atelier of

'Abd ar Rahim, Kahan-e-Khanan is not known to us today. Were the artists who were copying manuscripts for him resident with their more talented colleagues in the Imperial atelier and if not how close were they to the Imperial library to maintain the continuous access to the valuable manuscript originals necessary for them to manufacture such extensive copies?

Abu'l Fazl's chronicle has documented for all historians the functions and organisation of the Imperial establishment, but in doing so he has accentuated the need for equally detailed knowledge of the activities of the *lesser* Mughals, those able talented lieutenants of the Absolute Monarch, who purified judicious flattery by selective taste, and thus provided the necessary stimulus to a larger number of artists than history can name but to whose skill and imaginative expression, paintings such as the *Razmnama* illustrations bear eloquent testimony.

NOTES

1. Abu'l Fazl Allami, *Ain-i-Akbari.* Translated by H. Blochmann (Second ed. revised by D.C. Phillott. Calcutta 1927), p. 103.

2. Abu'l Fazl Allami, *op. cit.*, pp. 111/112, note 2.

3. See Hendley, T.H. "The Razmnamah Manuscript" *Memorials of the Jeypore Exhibition*, vol. iv. (London, 1884).

4. Wellesz, E. *Akbar's Religious Thought Reflected in Mogul Painting* (London, 1952), p. 39.

5. An interesting study in pen and ink by Rembrandt of 'Abd ar Rahim, copied from a Mughal original, has been published in Ettinghausen, R. *Paintings of the Sultans and Emperors in American Collections* (New Delhi, 1961), p. 6 text figure.

6. See Welch, S.C. 'Mughal and Deccani Miniature Paintings' *Ars Orientalis* Vol. 5 (Michigan, 1963), p. 229, note 34.

7. For a reference of 'Abd ar Rahim's journey from his camp at Thatta to view the sea before he returned to the Court at Agra, see Raverty, H.G.
   'The Mihran of Sind and its Tributaries' *Journal of the Asiatic Society of Bengal* Vol. LXI, Part II (1892), p. 469, note 538.

8. The manuscript has been discussed in Ettinghausen, R., *op. cit.*, and two folios reproduced in colour as plates 3 and 4. For a further discussion see also Welch, S., *op. cit.*, p. 229 and note 34.

9. One folio signed by Fazil is in the Mildred & W.G. Archer collection, no. 139. It was exhibited at the Wildenstein Gallery London in May 1965 (See Archer, M. & W.G., *Romance and poetry in Indian painting* (London, 1965), No. 2). Another is in the Metropolitan Museum of Art.

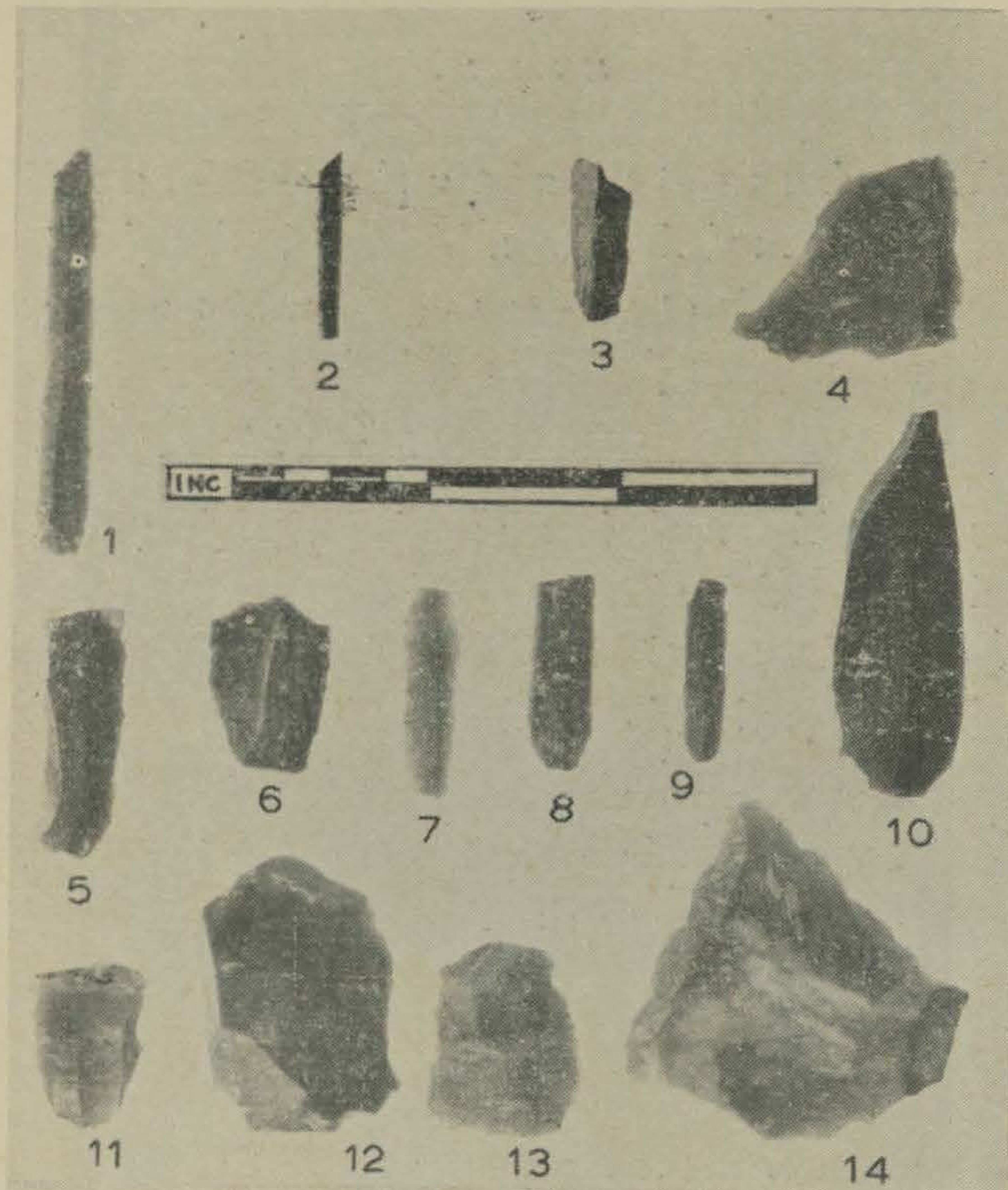
10. I.S. 25-1958. Victoria & Albert Museum collection, London. The Museum possesses two folios, both of which were acquired from the sale of a group of fifteen leaves at Sotheby's on 15, May 1958. The folio bearing the date has not been published but its companion folio has been reproduced in Archer, W.G. *Indian Miniatures* (Greenwich, 1960), pl. 24 in colour and also in Marcus, M. 'A Page from a dated *Razmnama*', *Bulletin of the Cleveland Museum of Art*, Vol. 48, No. 1 (1961), fig. 2.

11. For published examples, see Ashton, L. (ed.) *The Art of India and Pakistan* (London, 1950), PL. 122; Dimand, M. 'An Exhibition of Islamic and Indian Paintings' *Metropolitan Museum of Art Bulletin*, Vol. 14, No. 4 (1955), fig. p. 94; Marcus, M., *op. cit.*, fig. 1, also reproduced in the *Handbook of the Cleveland Museum of Art* (1966), p. 237, No. 60.44; Barrett, D. and Gray, B. *Painting of India* (Lausanne, 1963), fig. P. 106; Welch, S.C. *op. cit.*, fig. 16, also reproduced in Welch, S.C. *The Art of Mughal India* (New York, 1963). pl. 33; and *Maggs Bros Ltd. Bulletin* No. 7 (July, 1964), p. 171, No. 164.

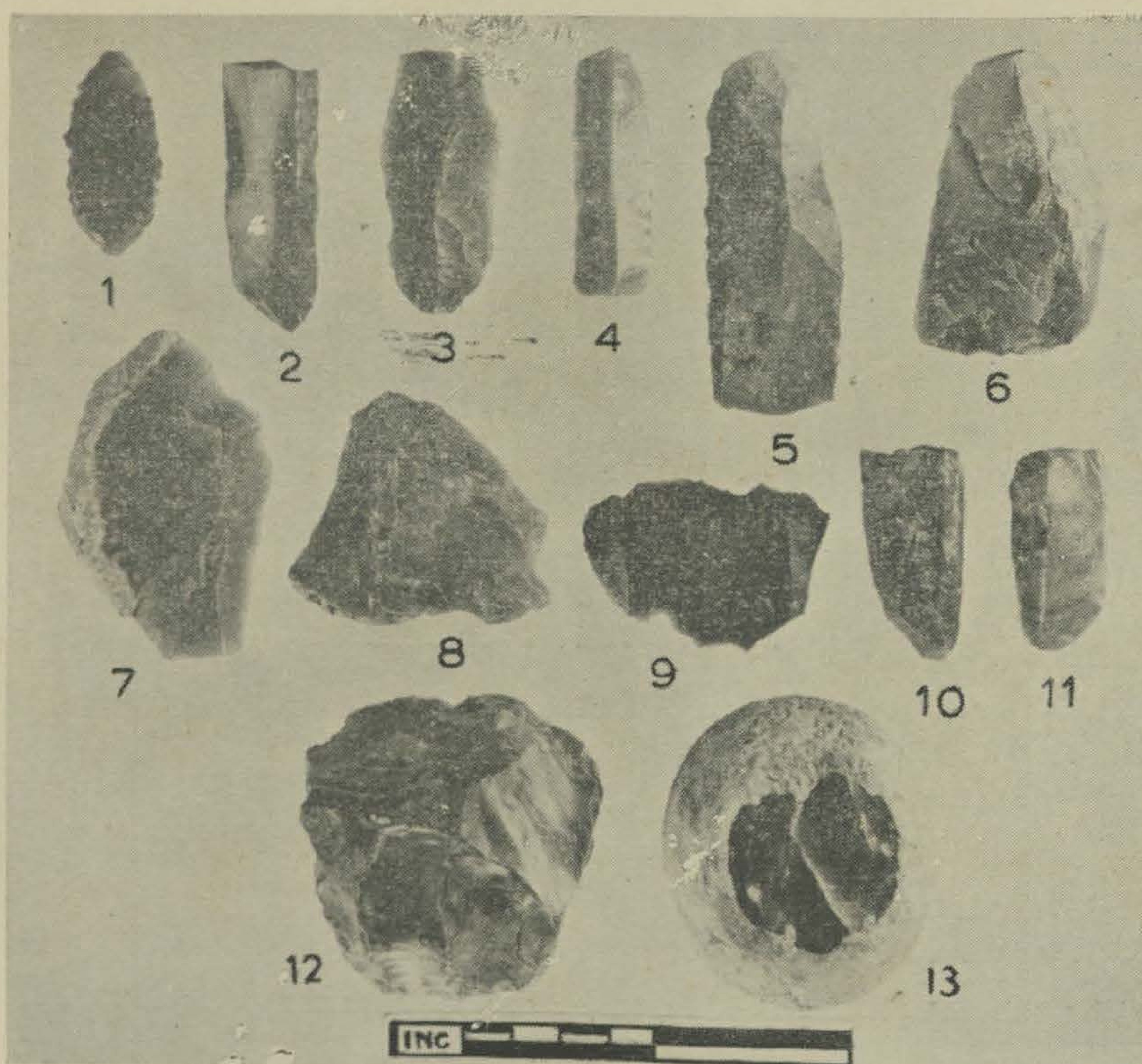
12. LM No. B, 92, acquired in May 1923. The painting is now in the Chandigarh Museum, India.

13. LM B. 94 (Acq. No. 0593/23.5.1923). The same incident has been reproduced from the Jaipur *Razmnama* in Hendley, T.H., *op, cit.*, pl. XCII.

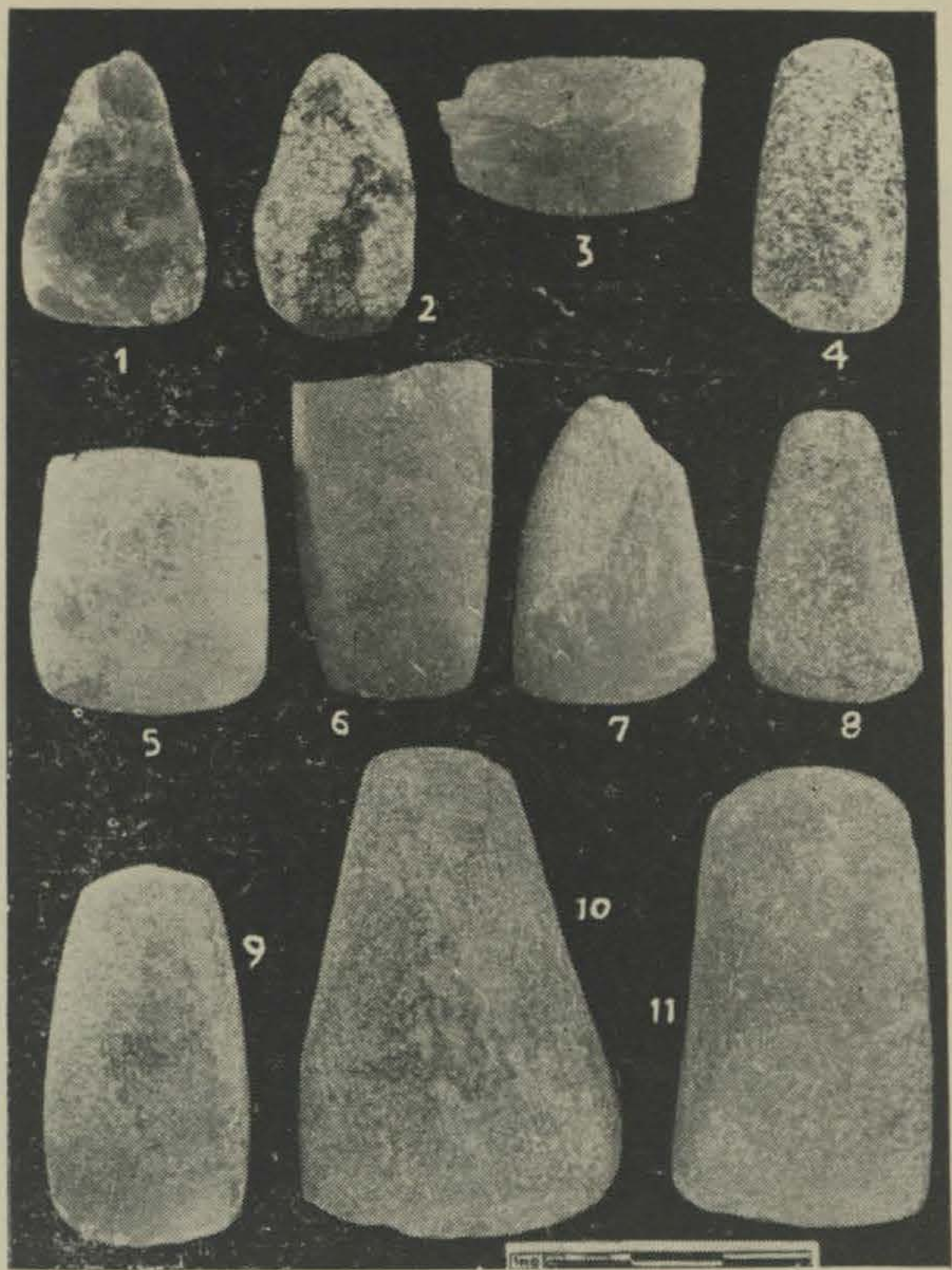
14. LM B. 93 (Acq. No. 0592/23.5. 1923).



A. Sarai Khola: Microliths



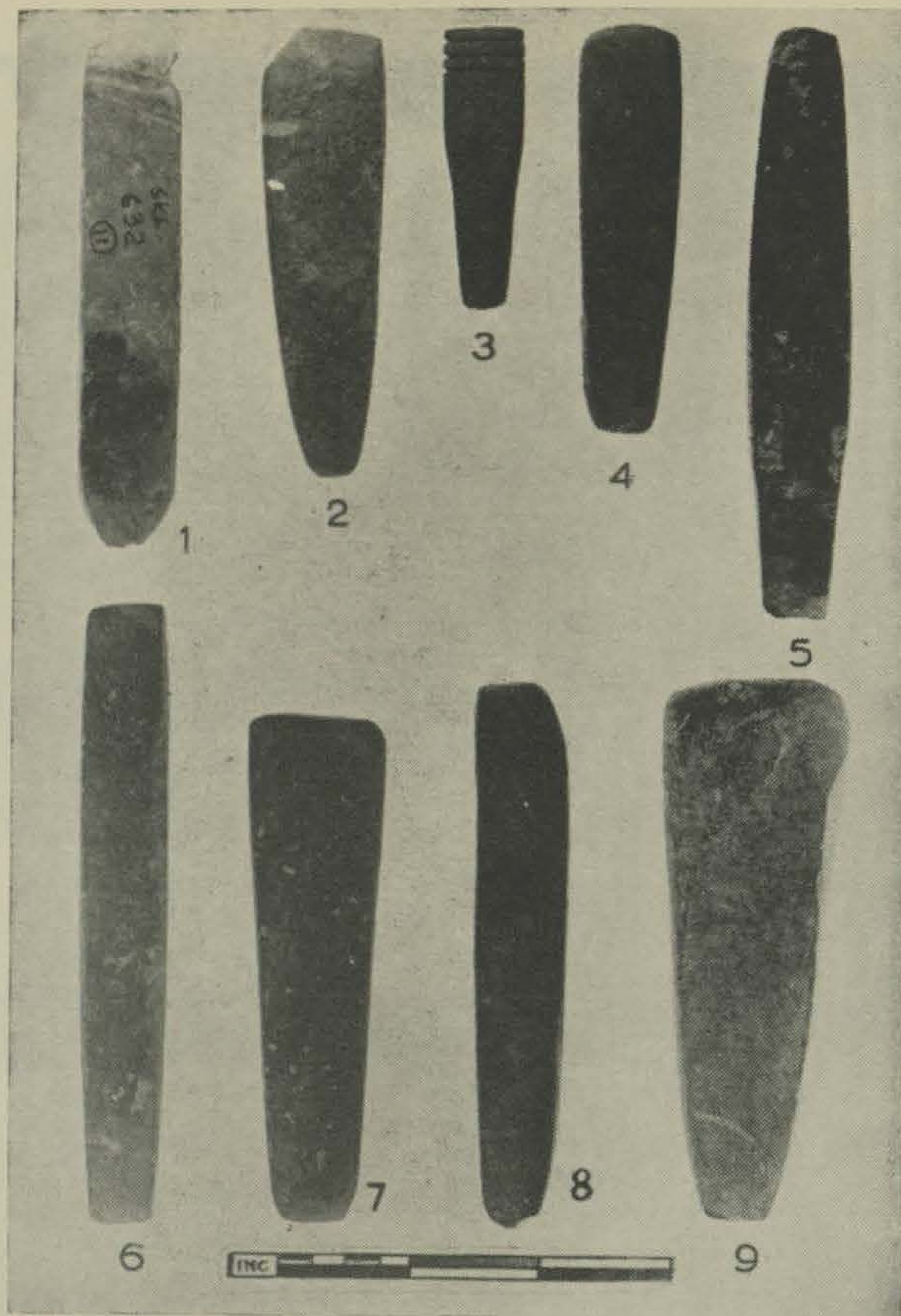
B. Sarai Khola: Microliths



A. Sarai Khola: Stone celts or ground stone tools



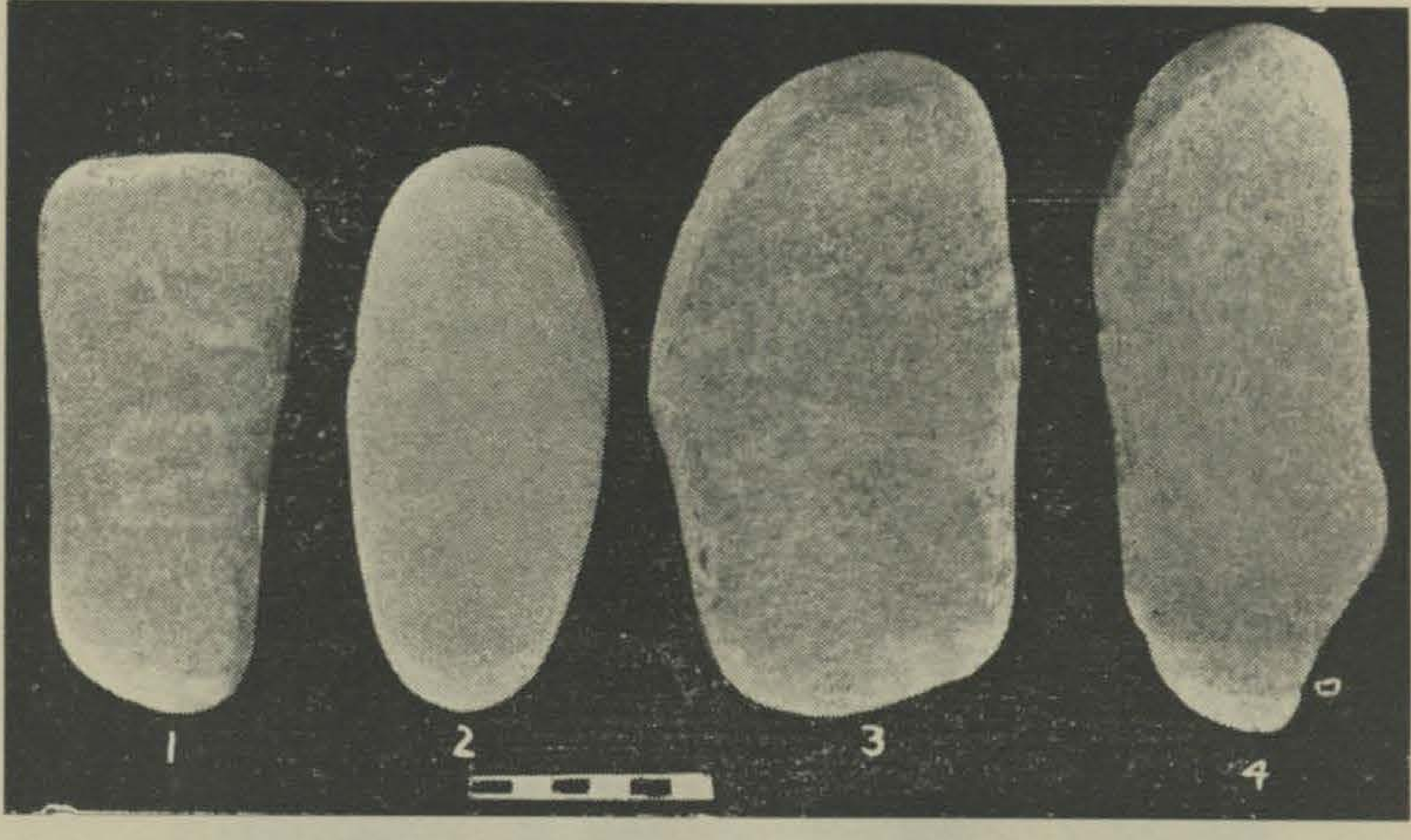
B. Sarai Khola: Stone celts or ground stone tools



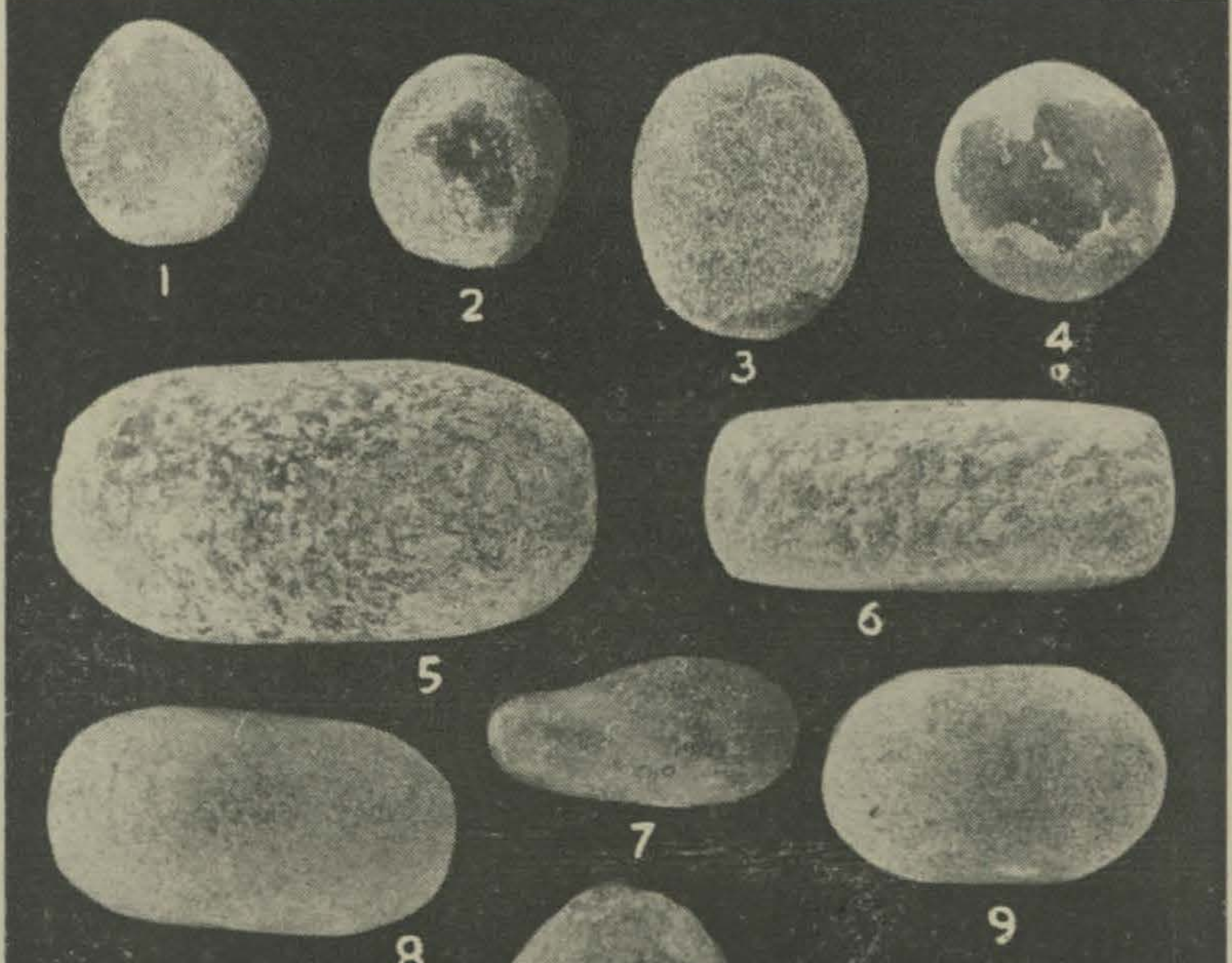
A. Sarai Khola: Stone chisels



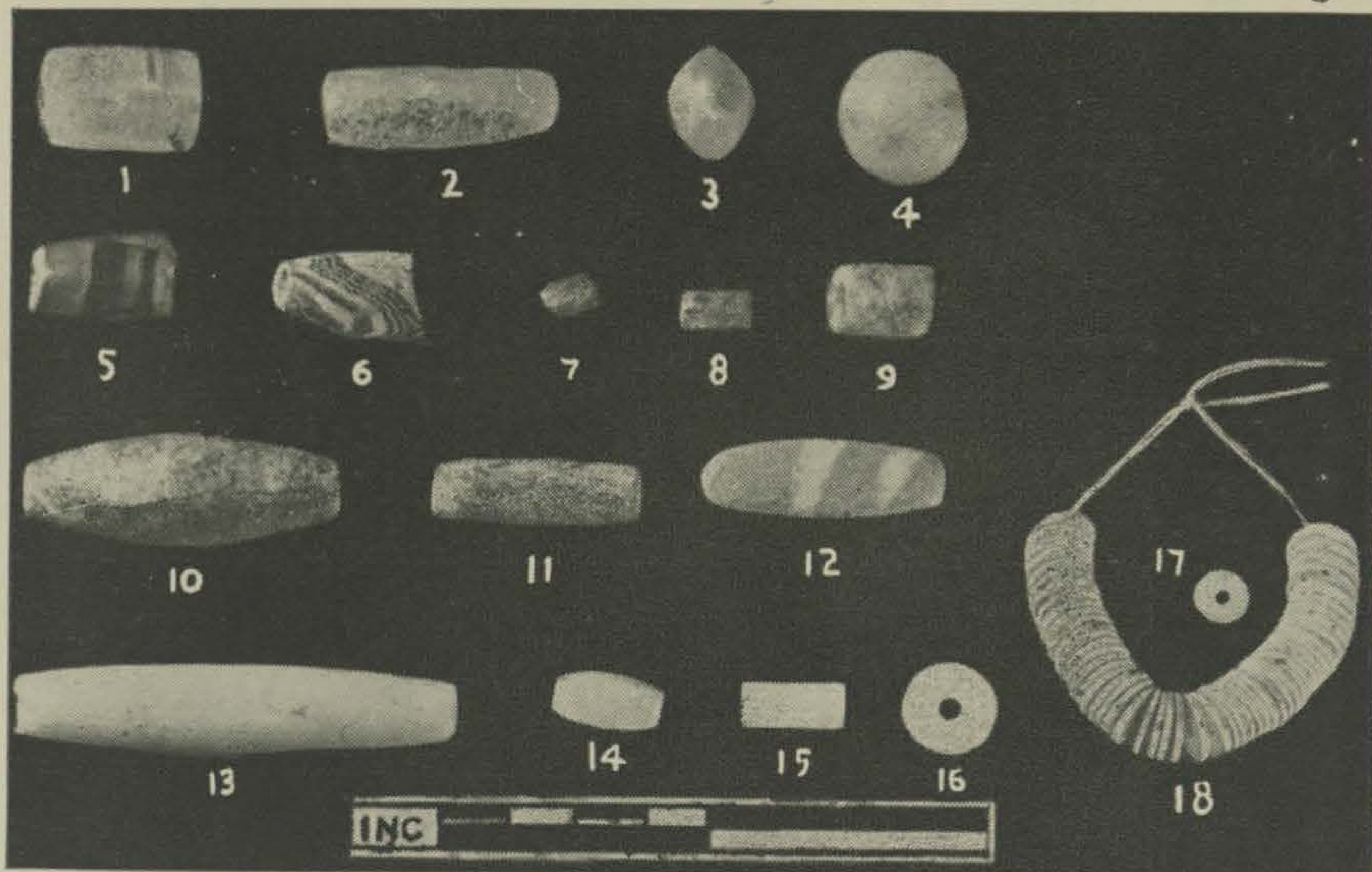
B. Sarai Khola: Mace-heads



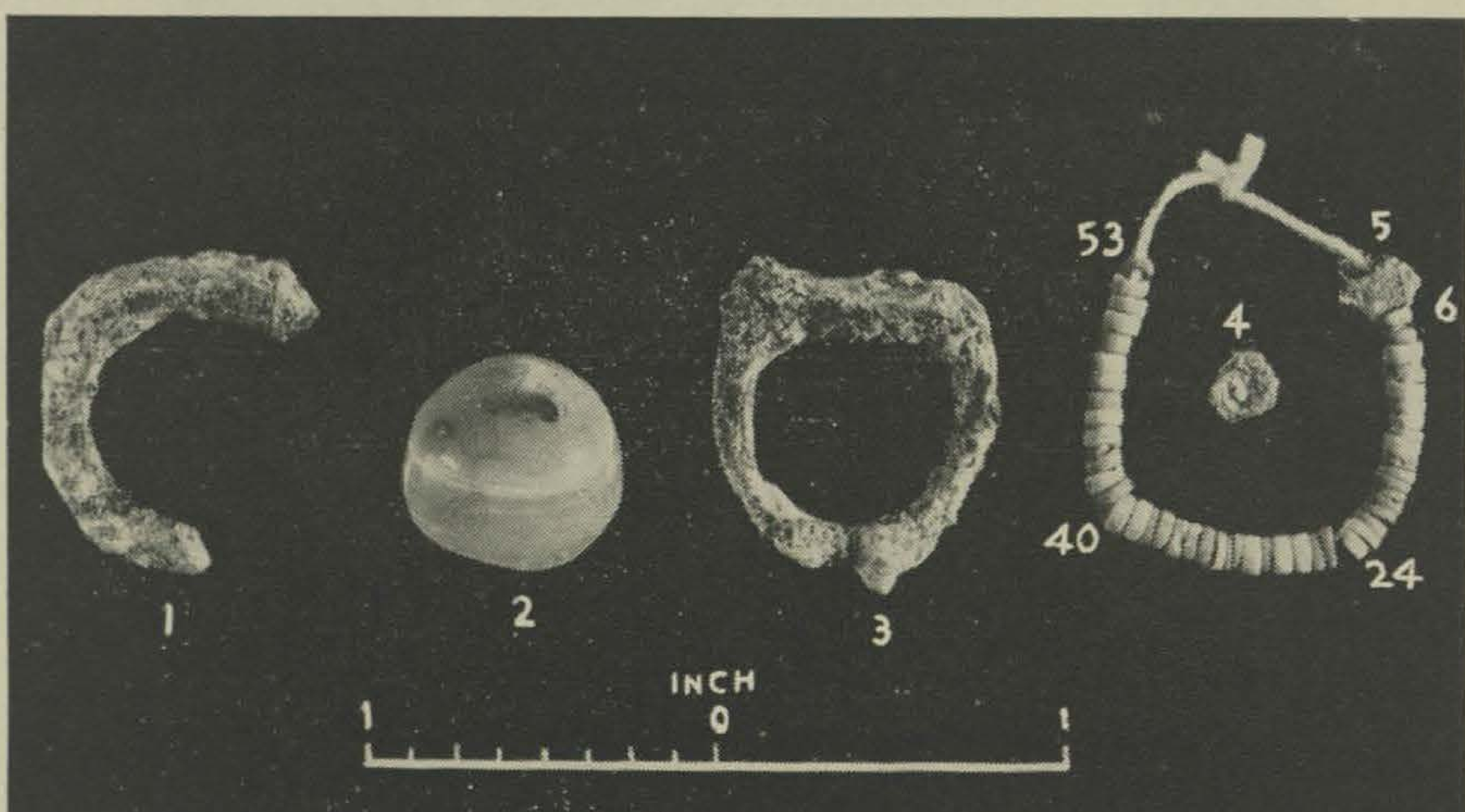
A. Sarai Khola: Grinding slabs



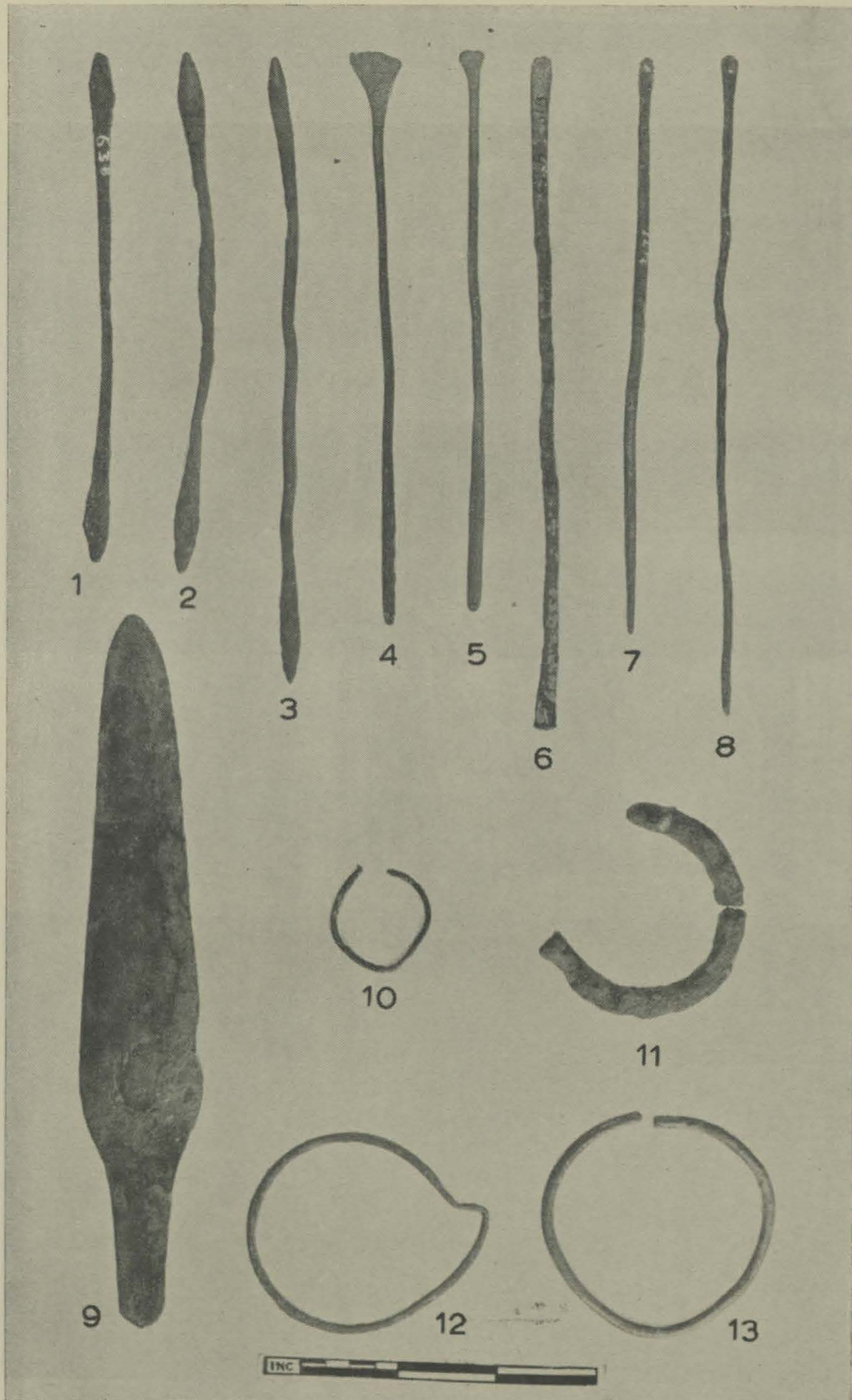
B. Sarai Khola: Grinders and pounders



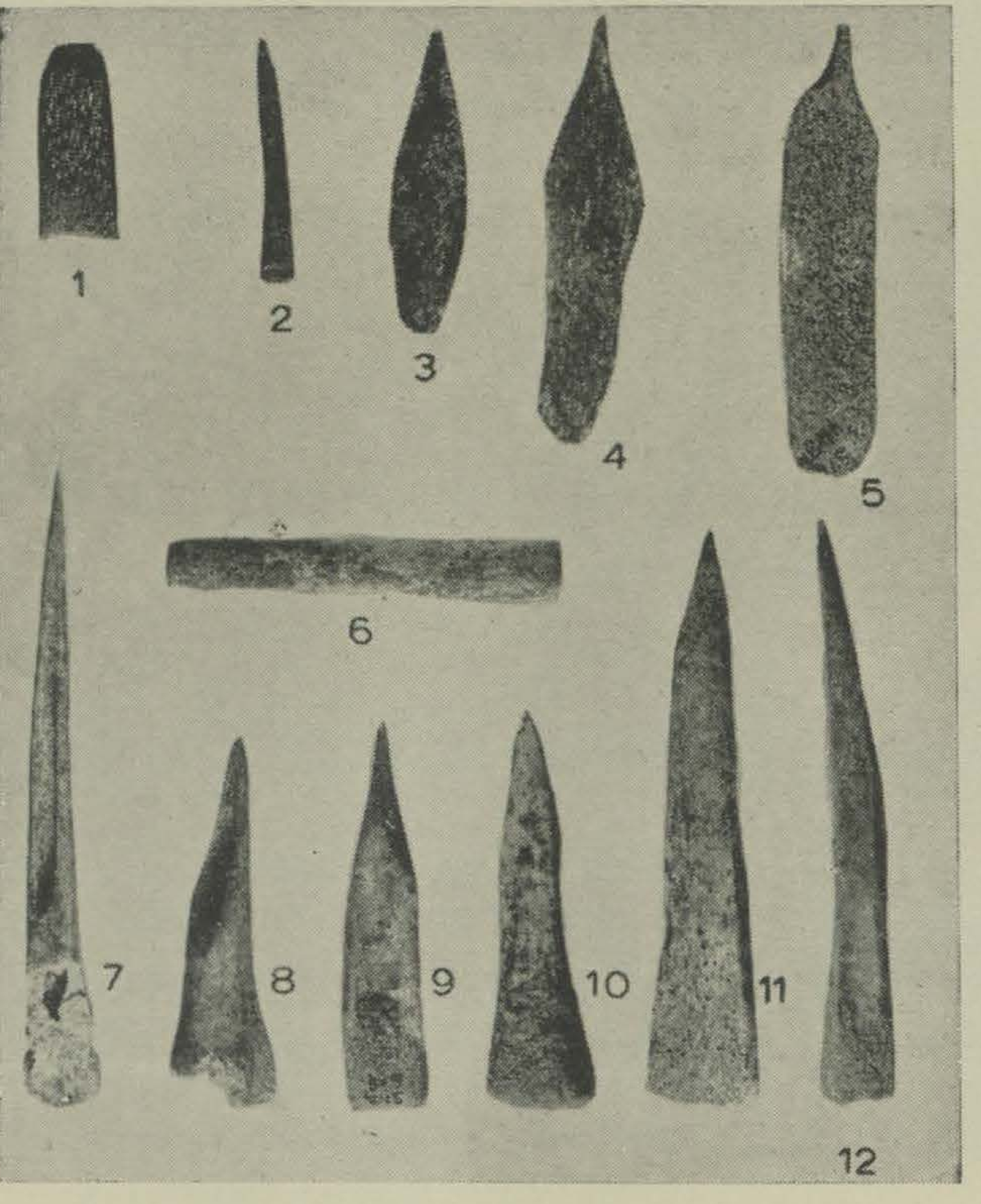
A. Sarai Khola: Beads



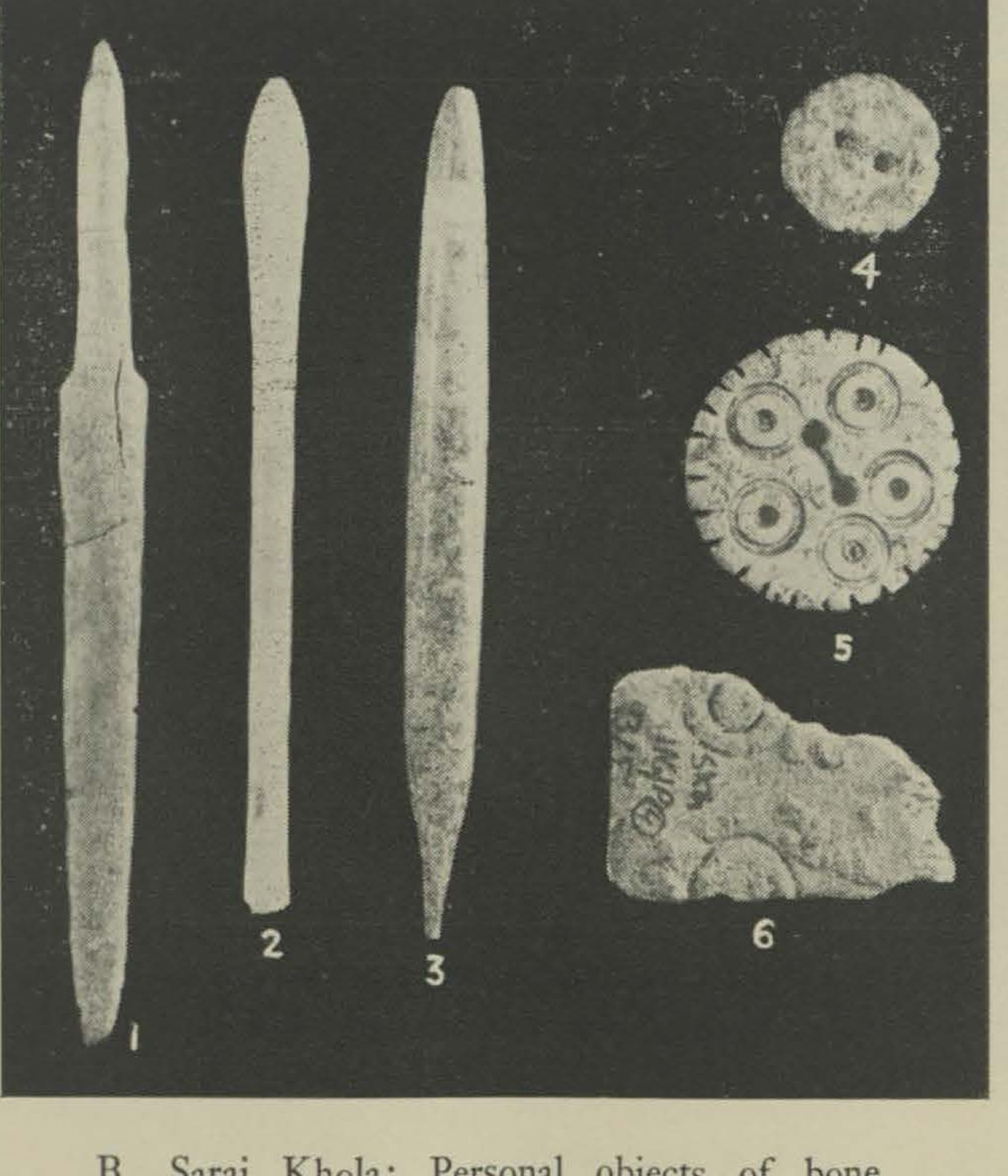
B. Sarai Khola: Iron, stone and paste objects from Period III



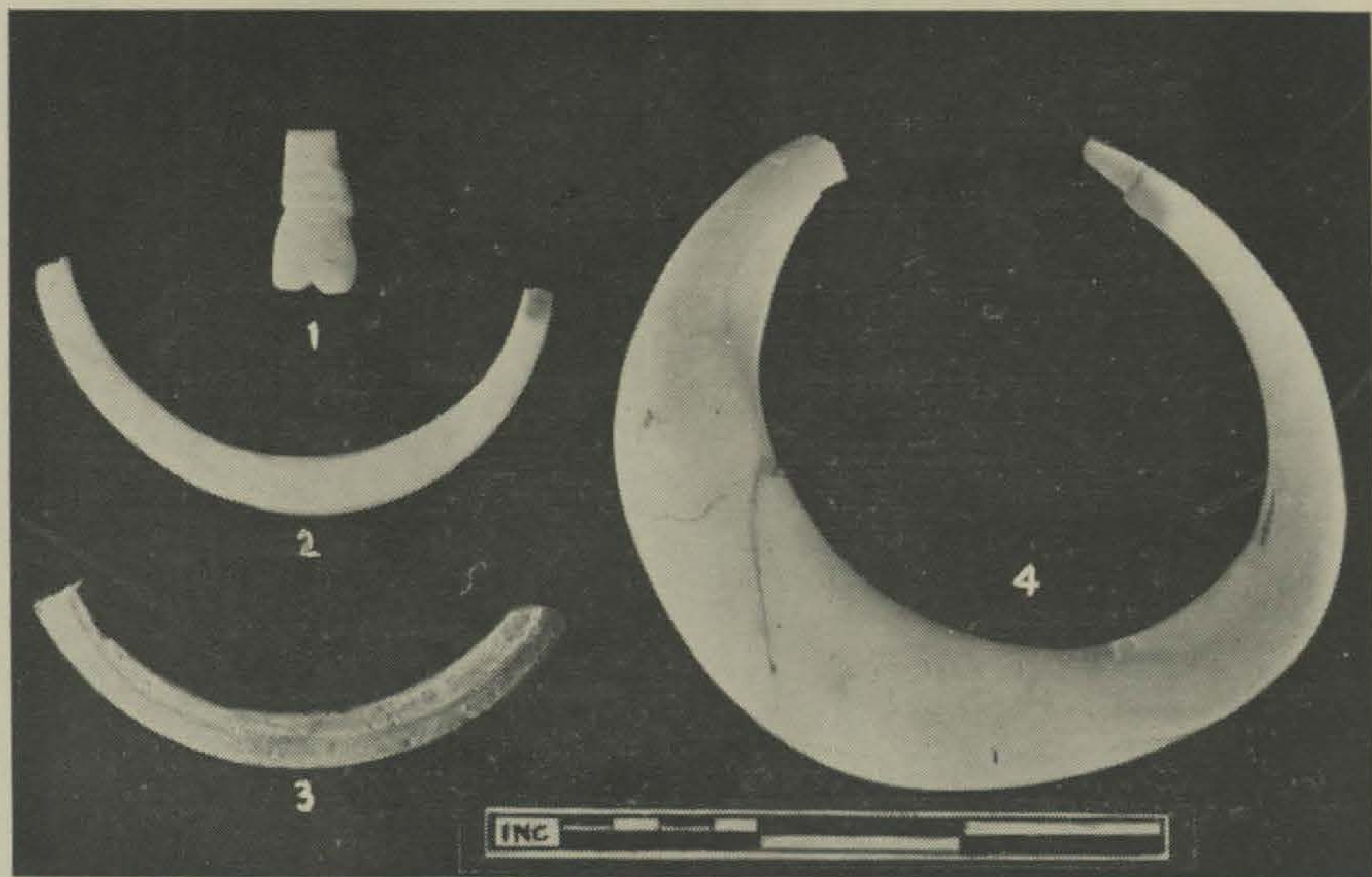
Sarai Khola: Copper objects



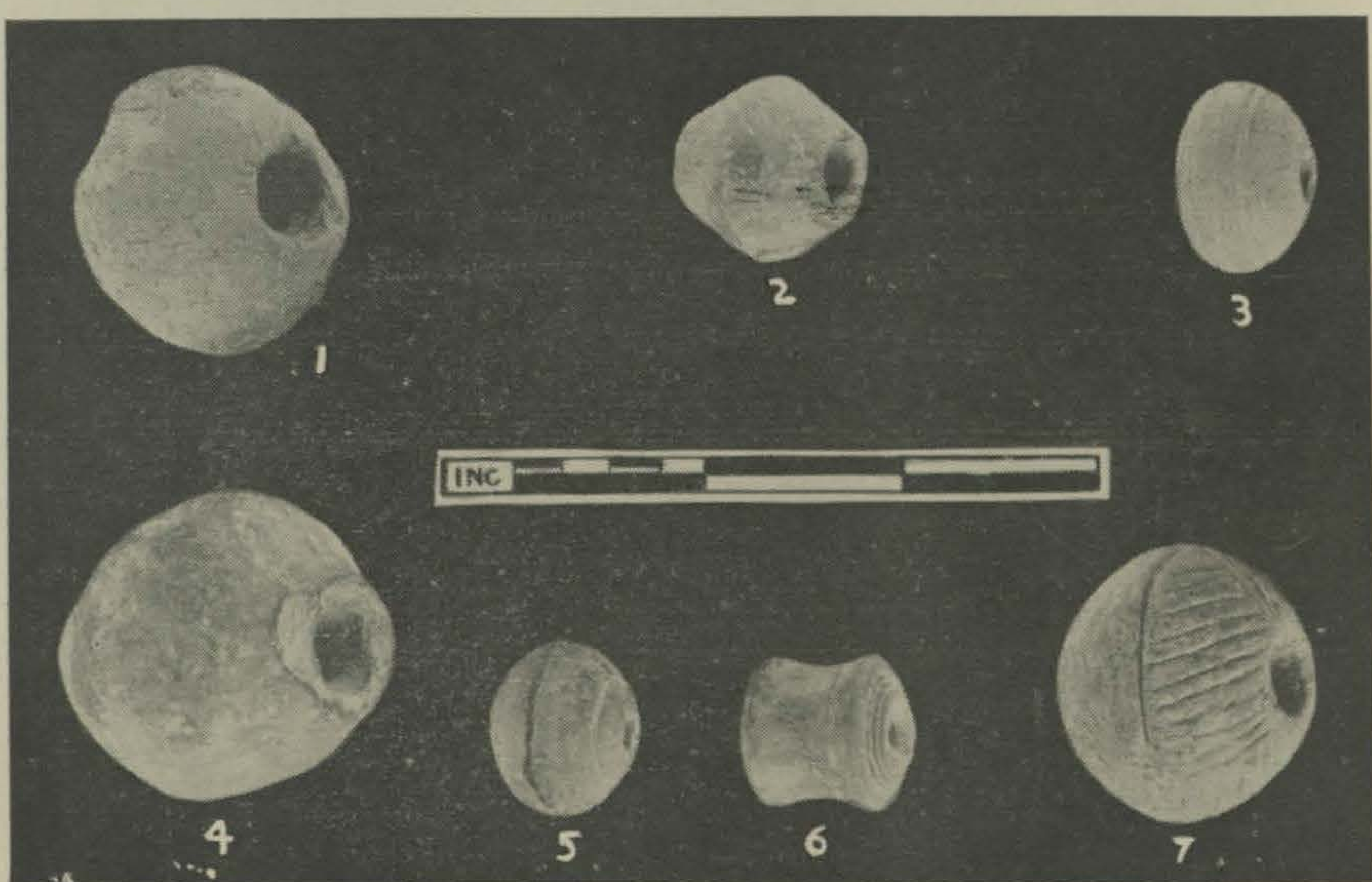
A. Sarai Khola: Bone implements



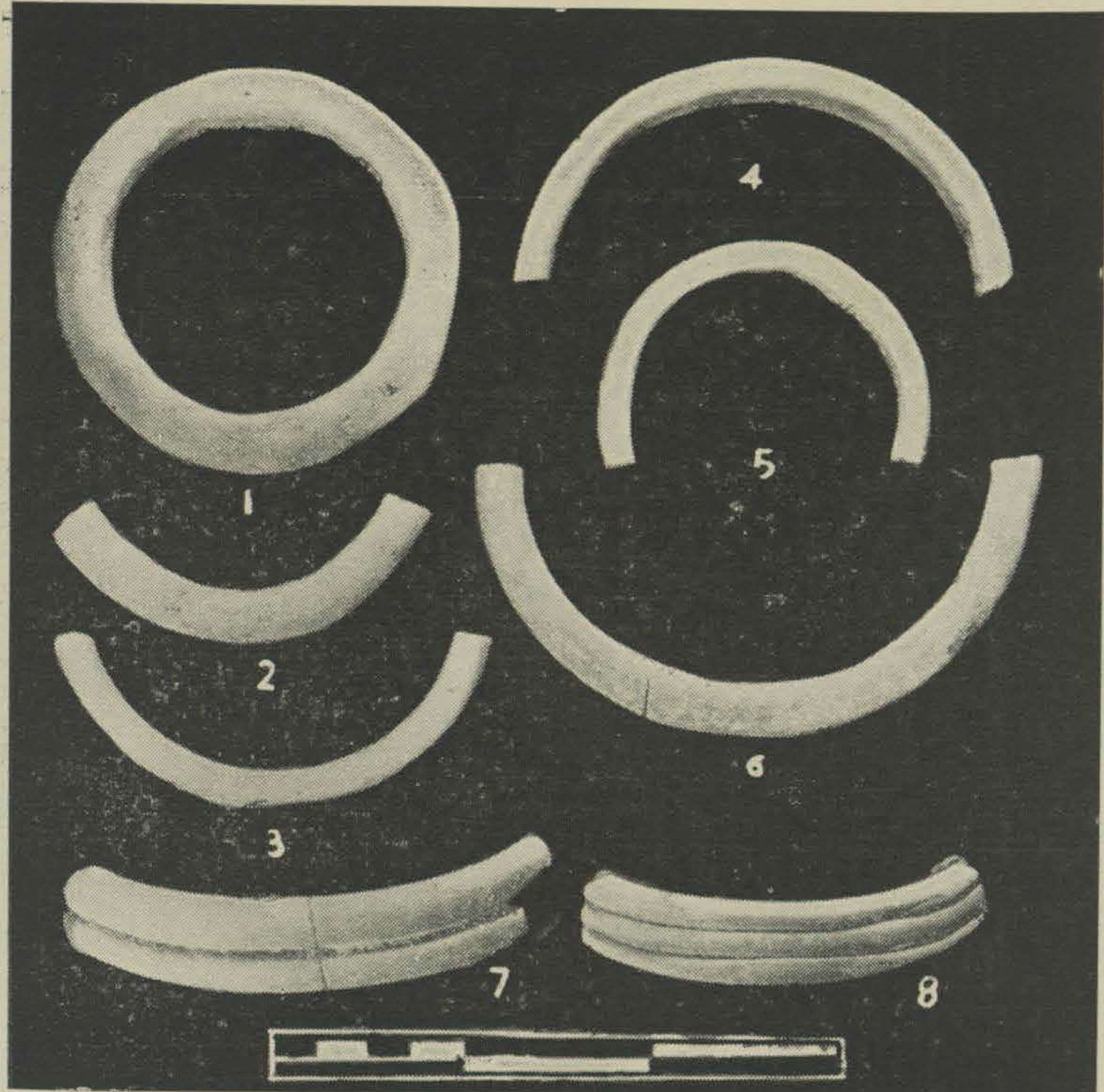
B. Sarai Khola: Personal objects of bone



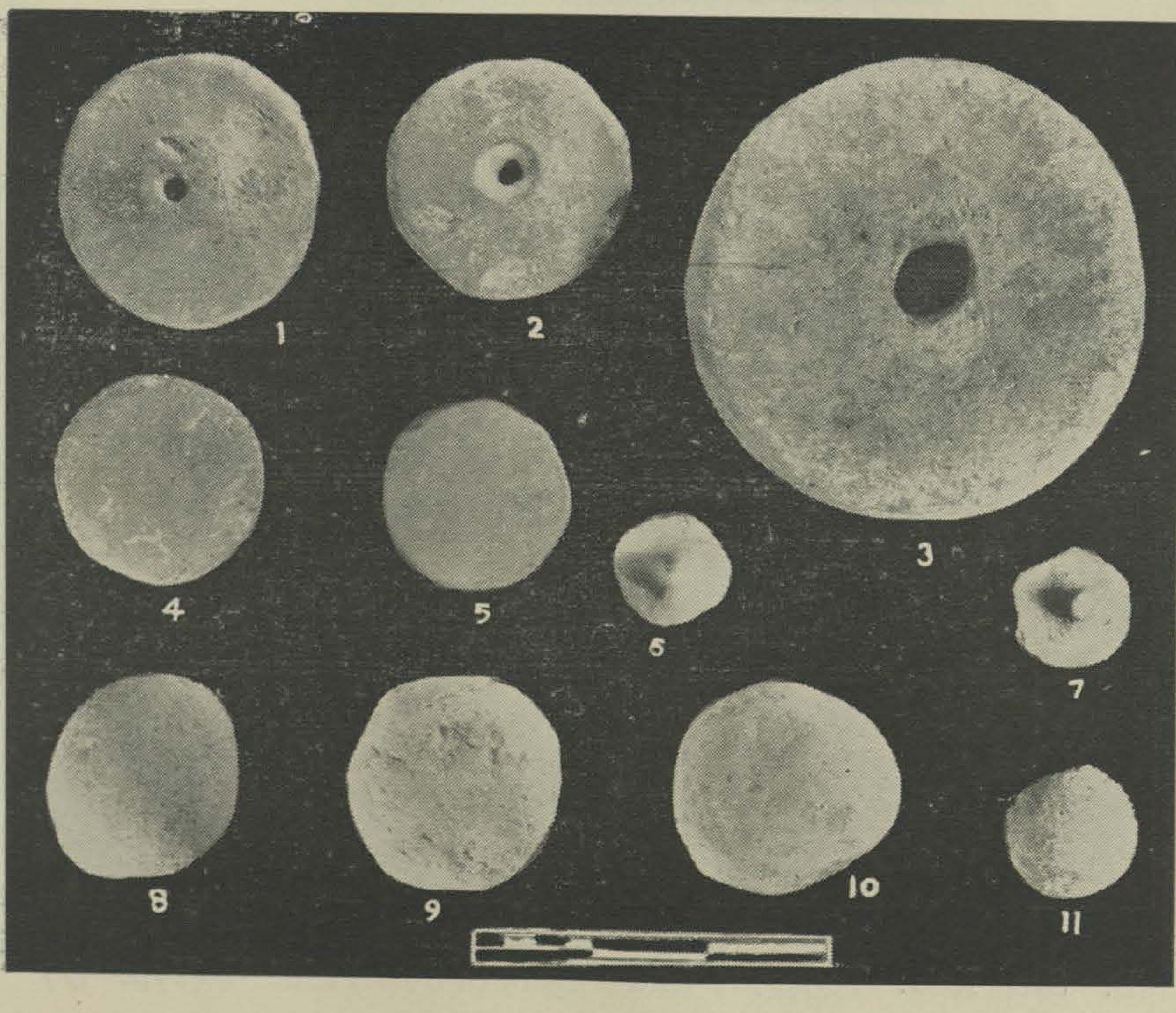
A. Sarai Khola: Shell objects



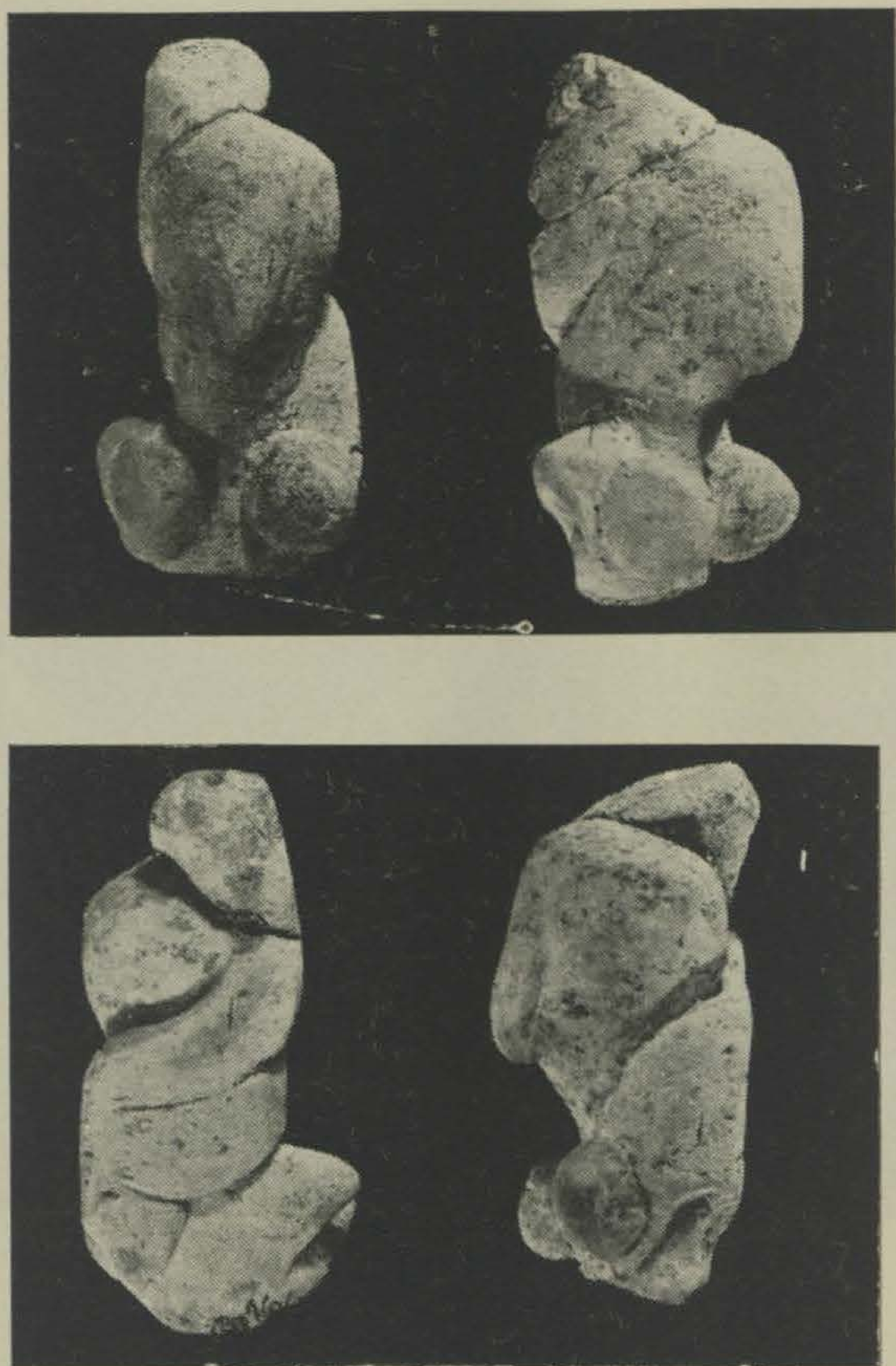
B. Sarai Khola: Terracotta Beads



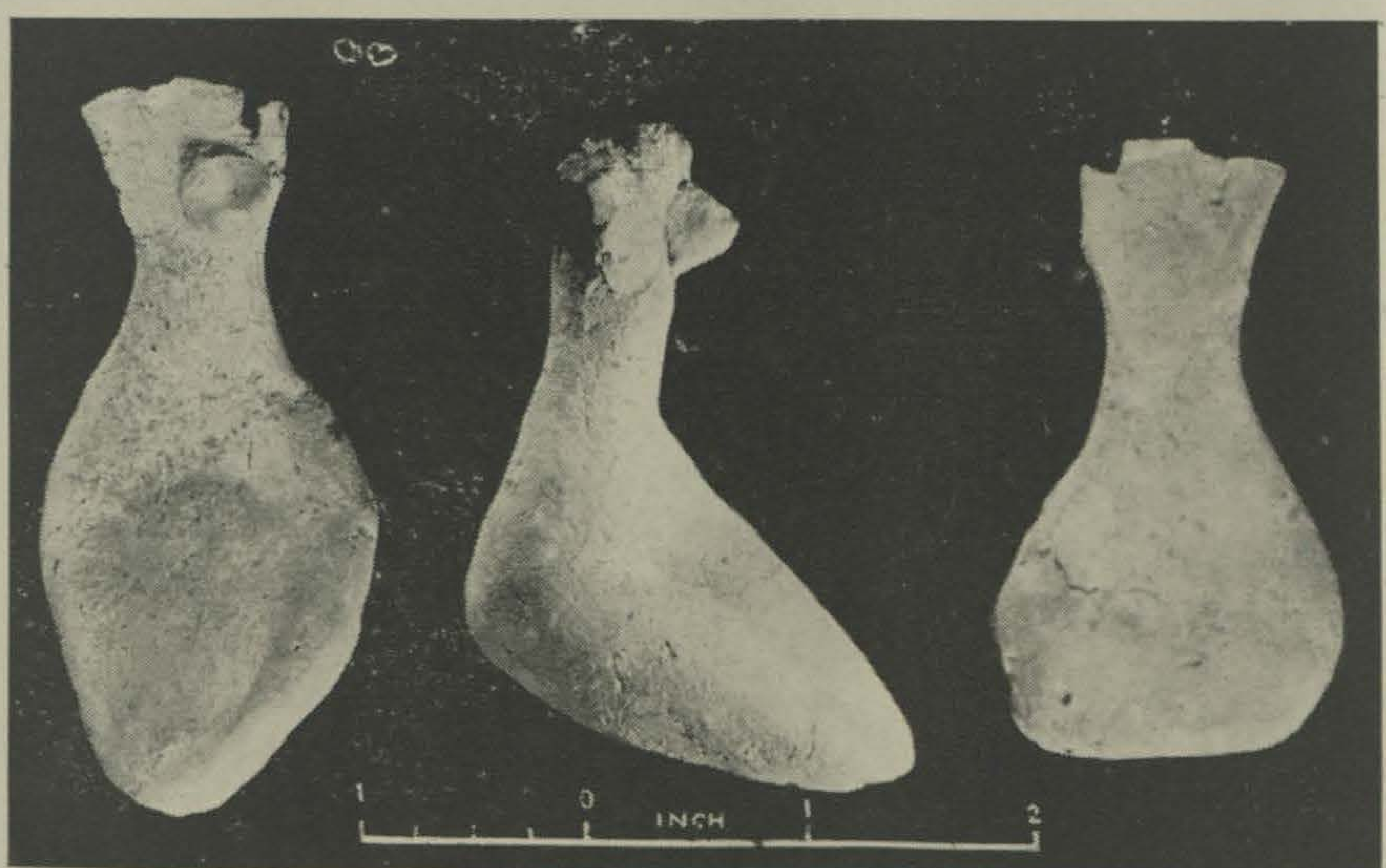
A. Sarai Khola: Terracotta bangles



B. Sarai Khola: Terracotta play objects



A. Sarai Khola: Terracotta female figurines from Period I (Type 'B')



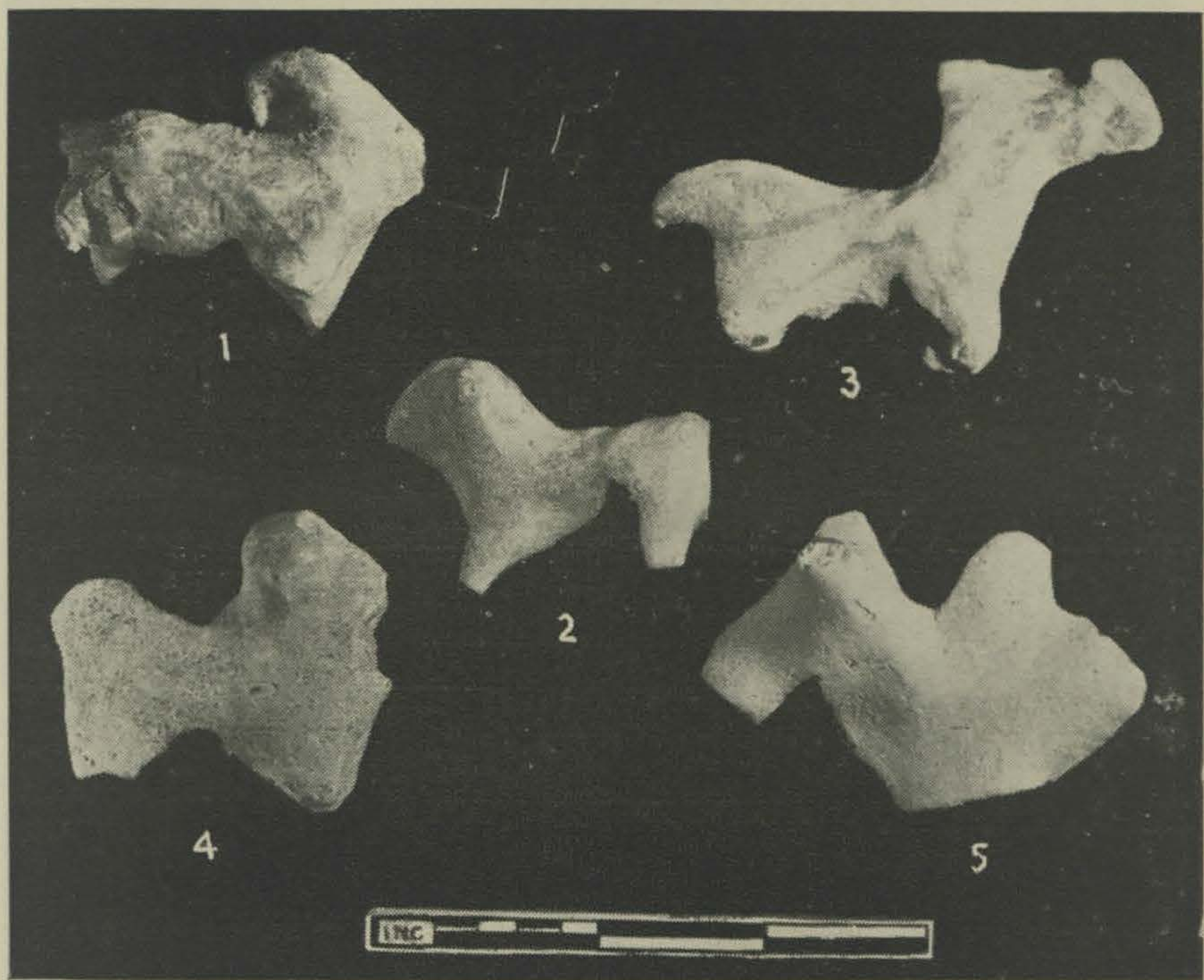
B. Sarai Kola: Terracotta female figurines from Period II (Type 'A')



A. Sarai Khola: Terracotta female figurines from Period III and IV



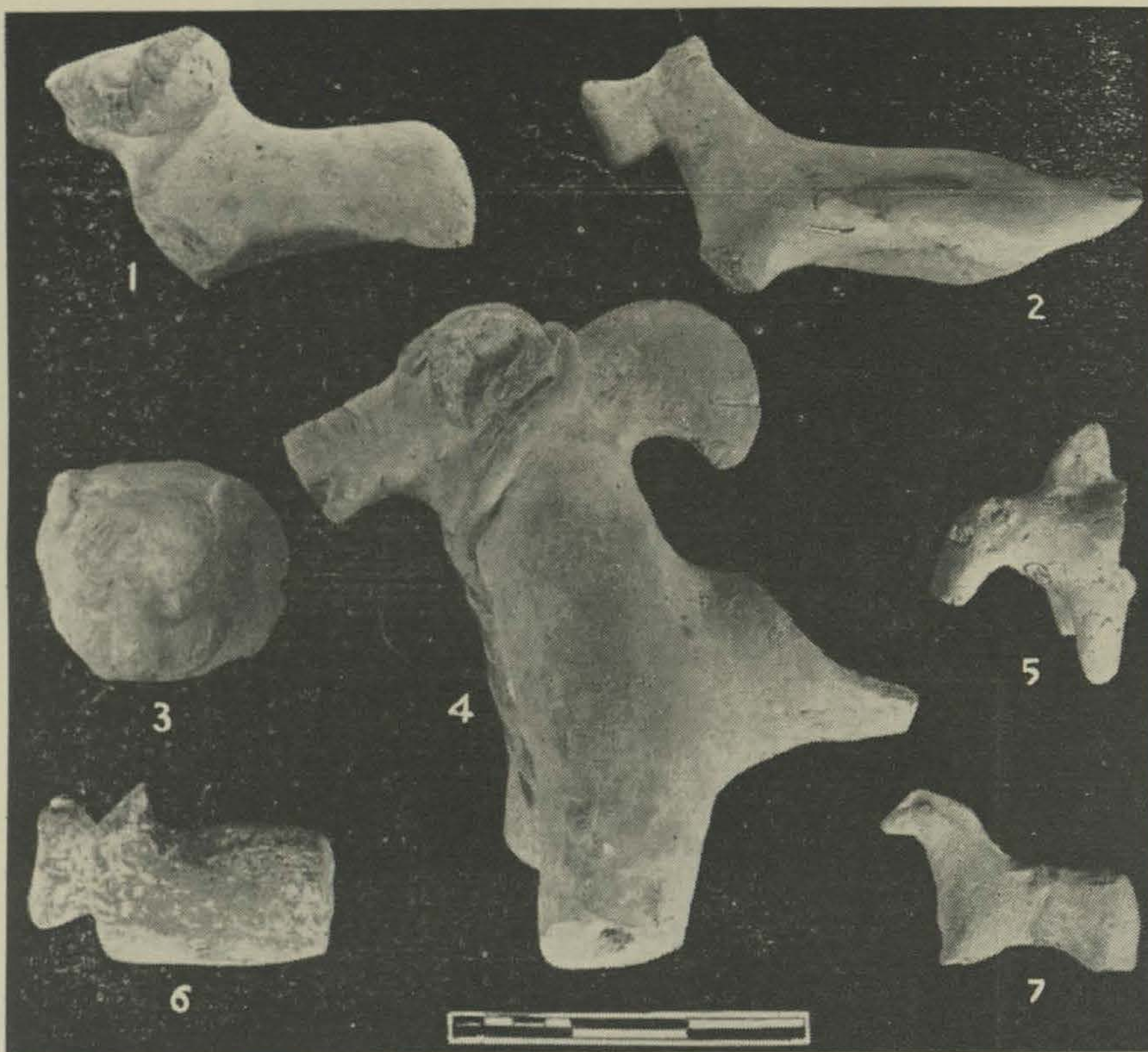
B. Sarai Khola: Terracotta female figurines from Period IV



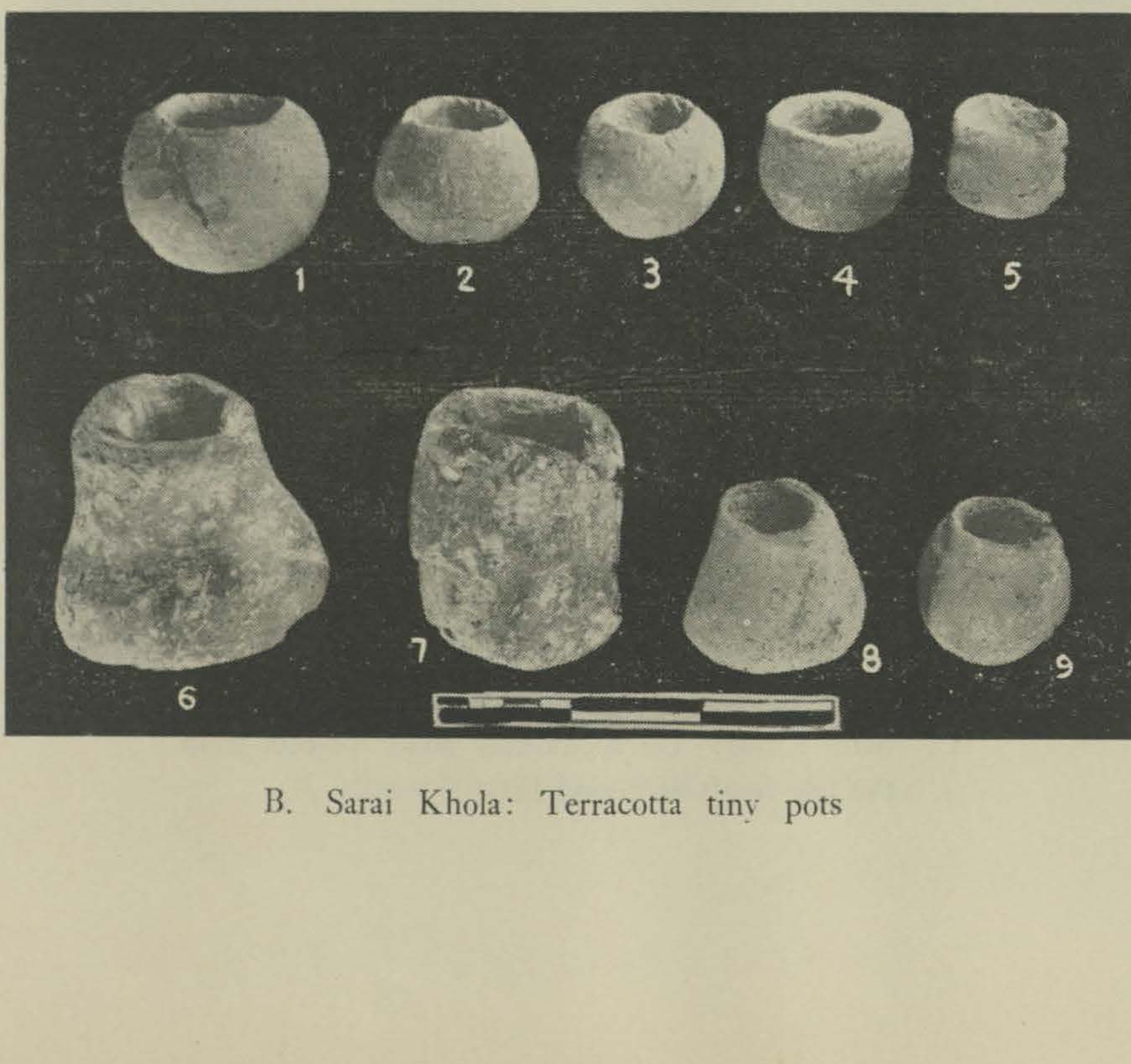
A. Sarai Khola: Terracotta animal figurines from Period II



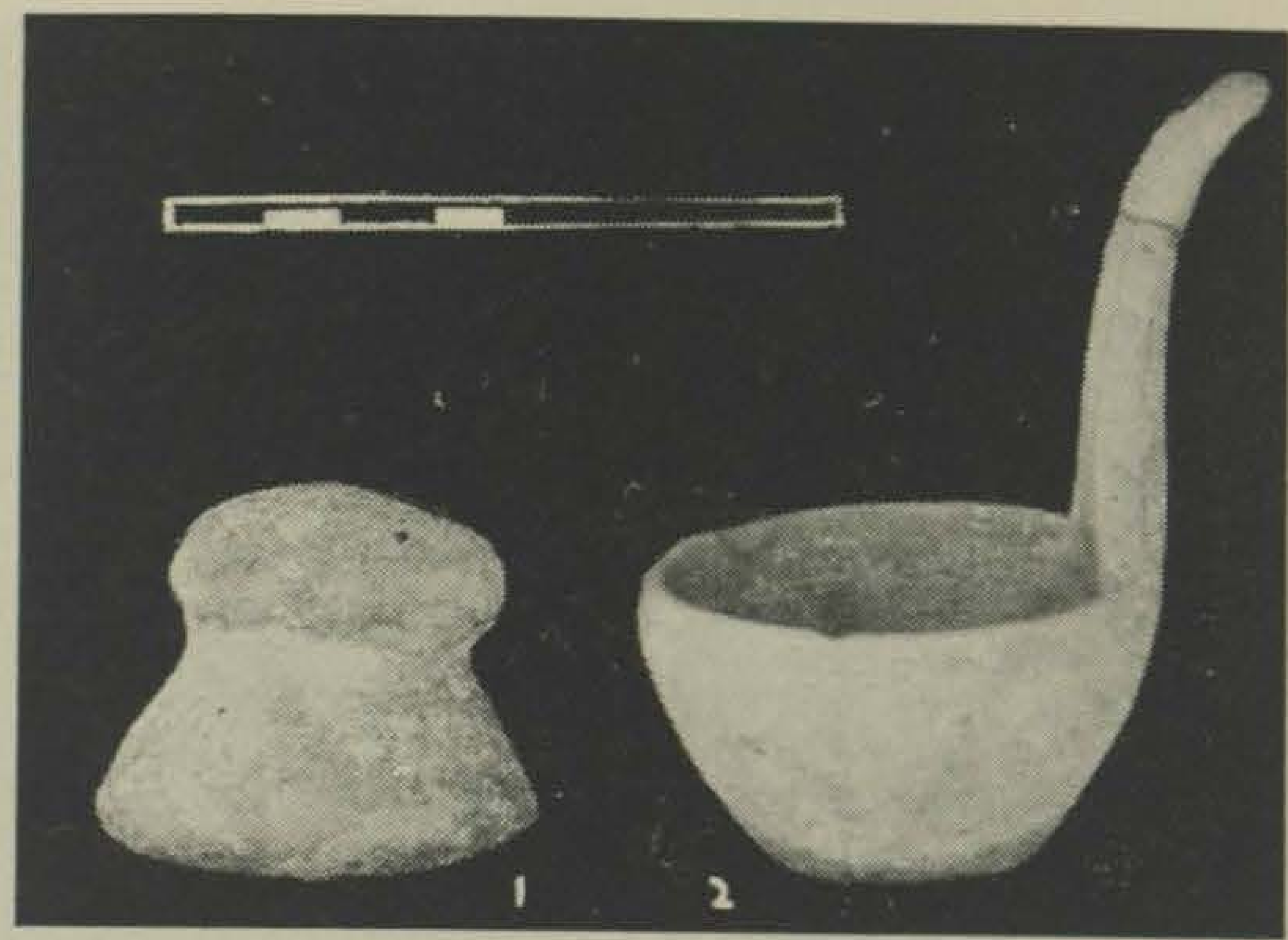
B. Sarai Khola: Terracotta humped bull figurines from Period IV



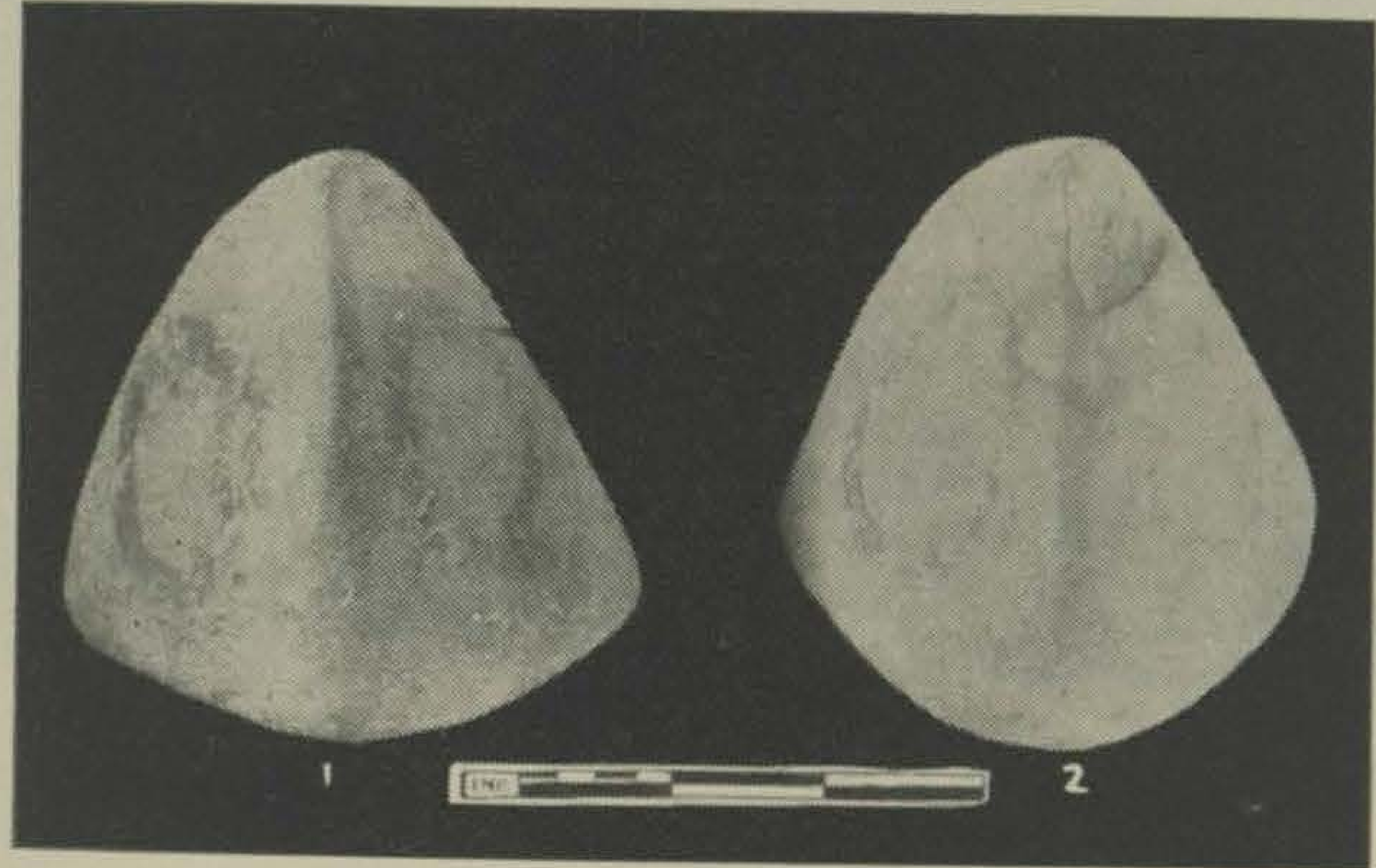
A. Sarai Khola: Terracotta animals figurines from Period IV



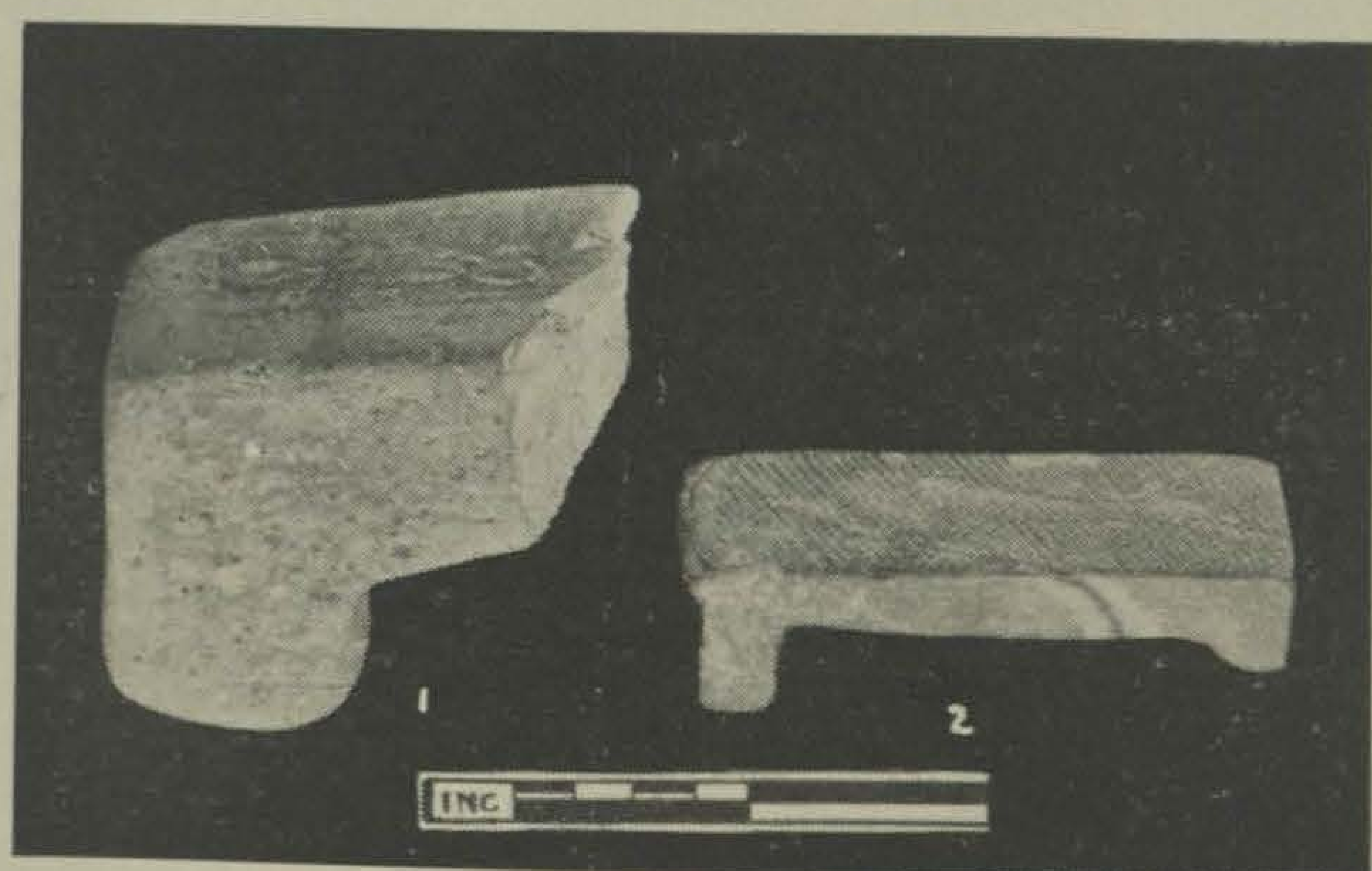
B. Sarai Khola: Terracotta tiny pots



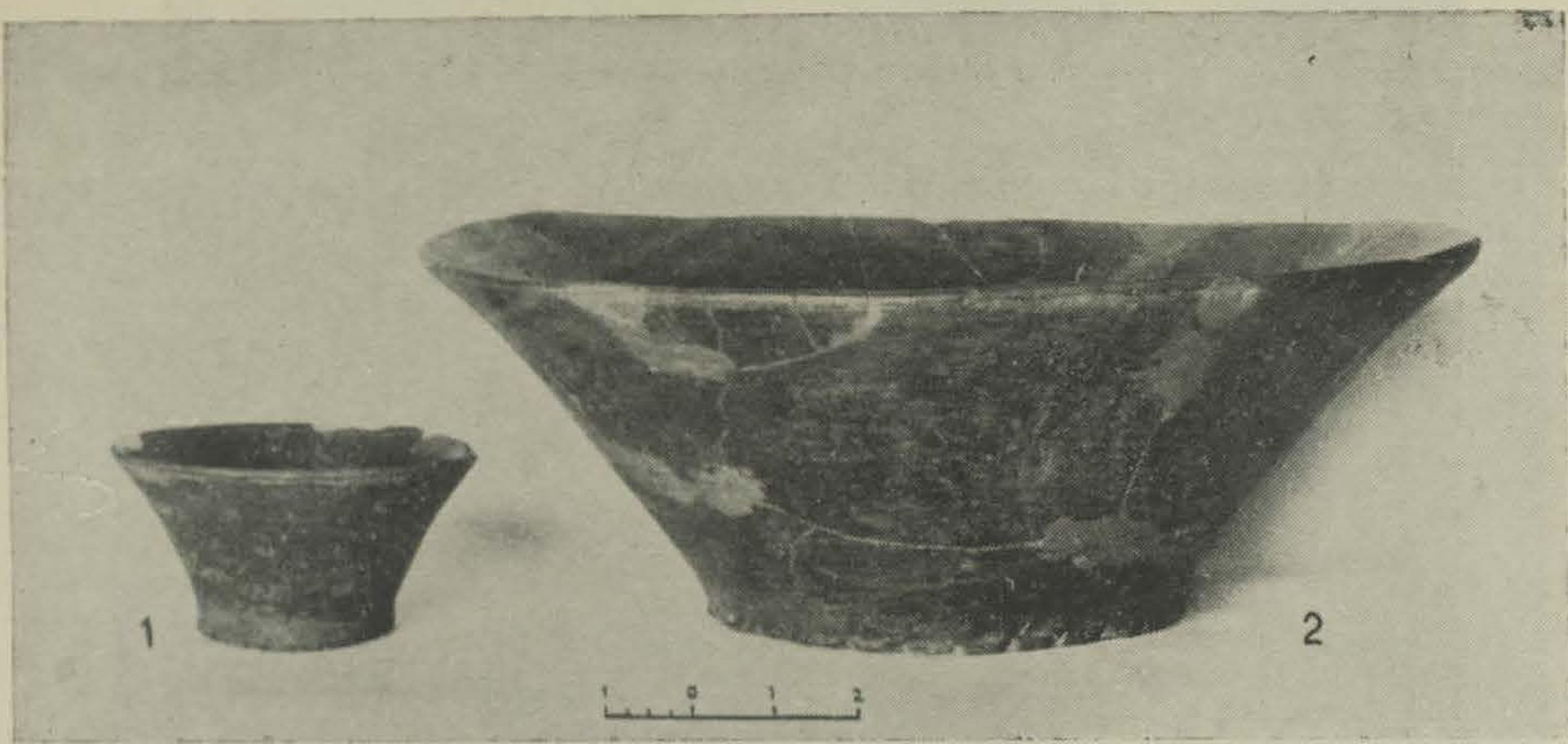
A. Sarai Khola: Terracotta dabber and ladle from the levels of Period II



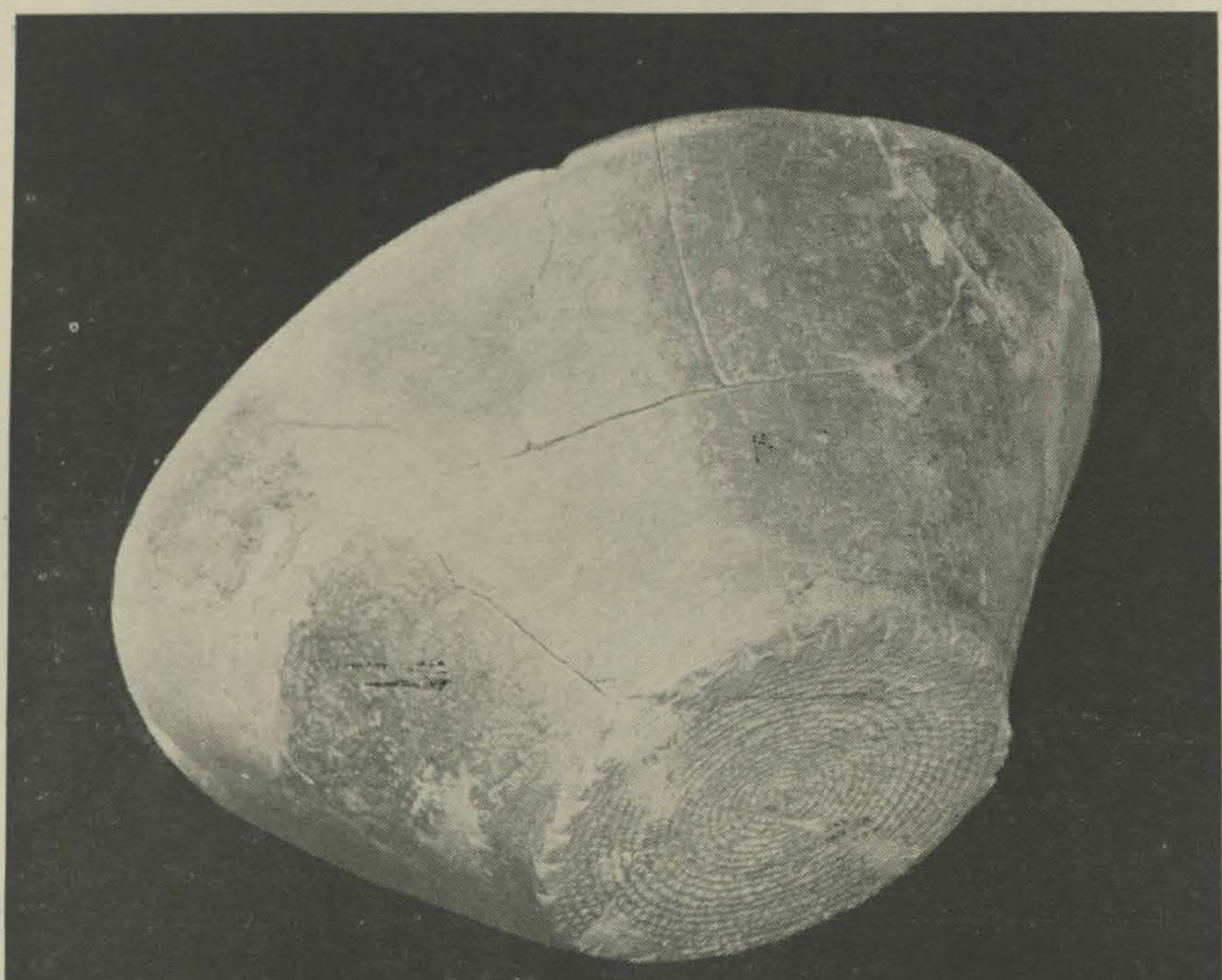
B. Sarai Khola: Terracotta objects from the late levels of Period II



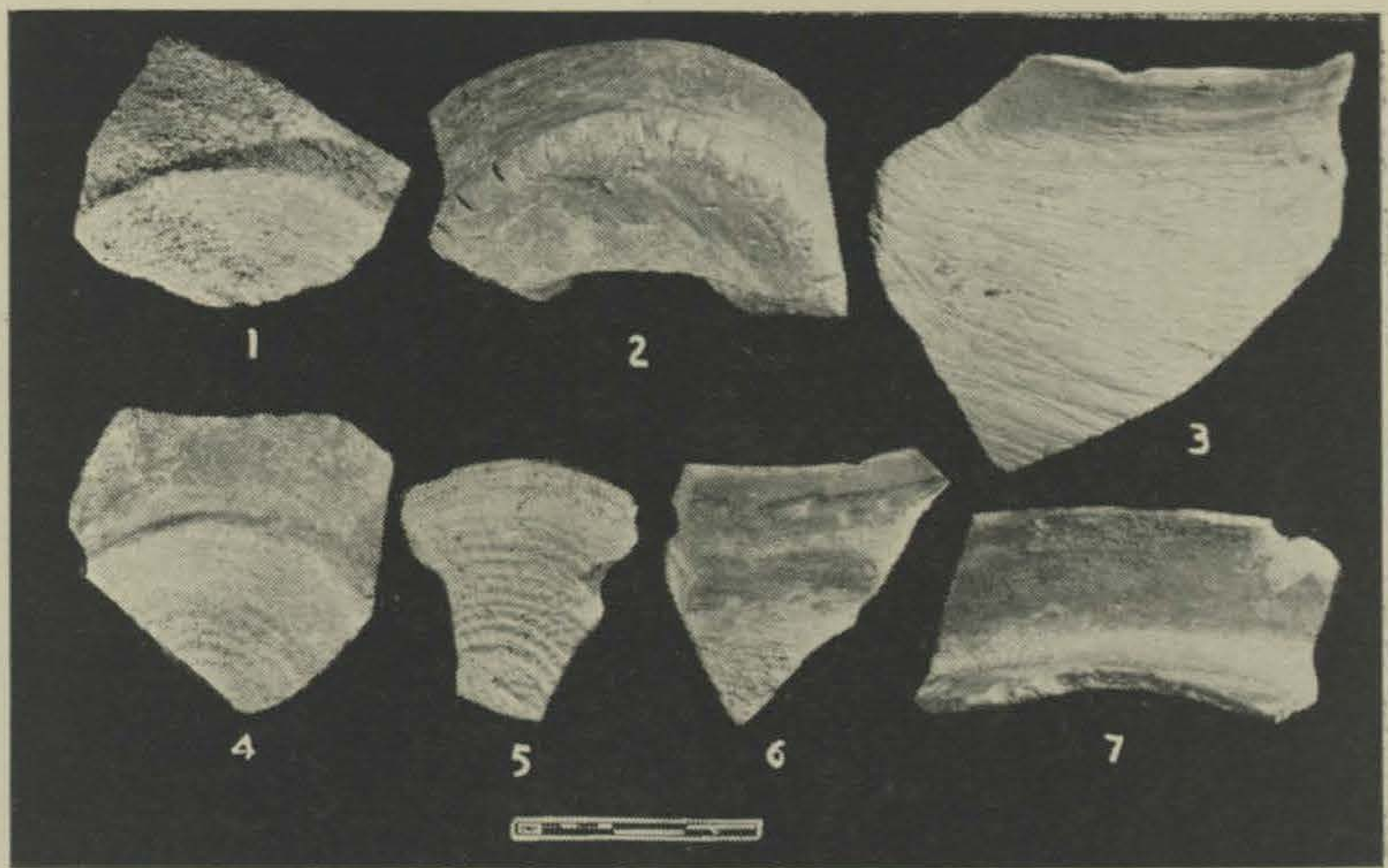
C. Sarai Khola: Terracotta and stone objects from the late levels of Period II



A. Sarai Khola: Burnished bowls of Period I



B. Sarai Khola: Burnished bowl of Period I



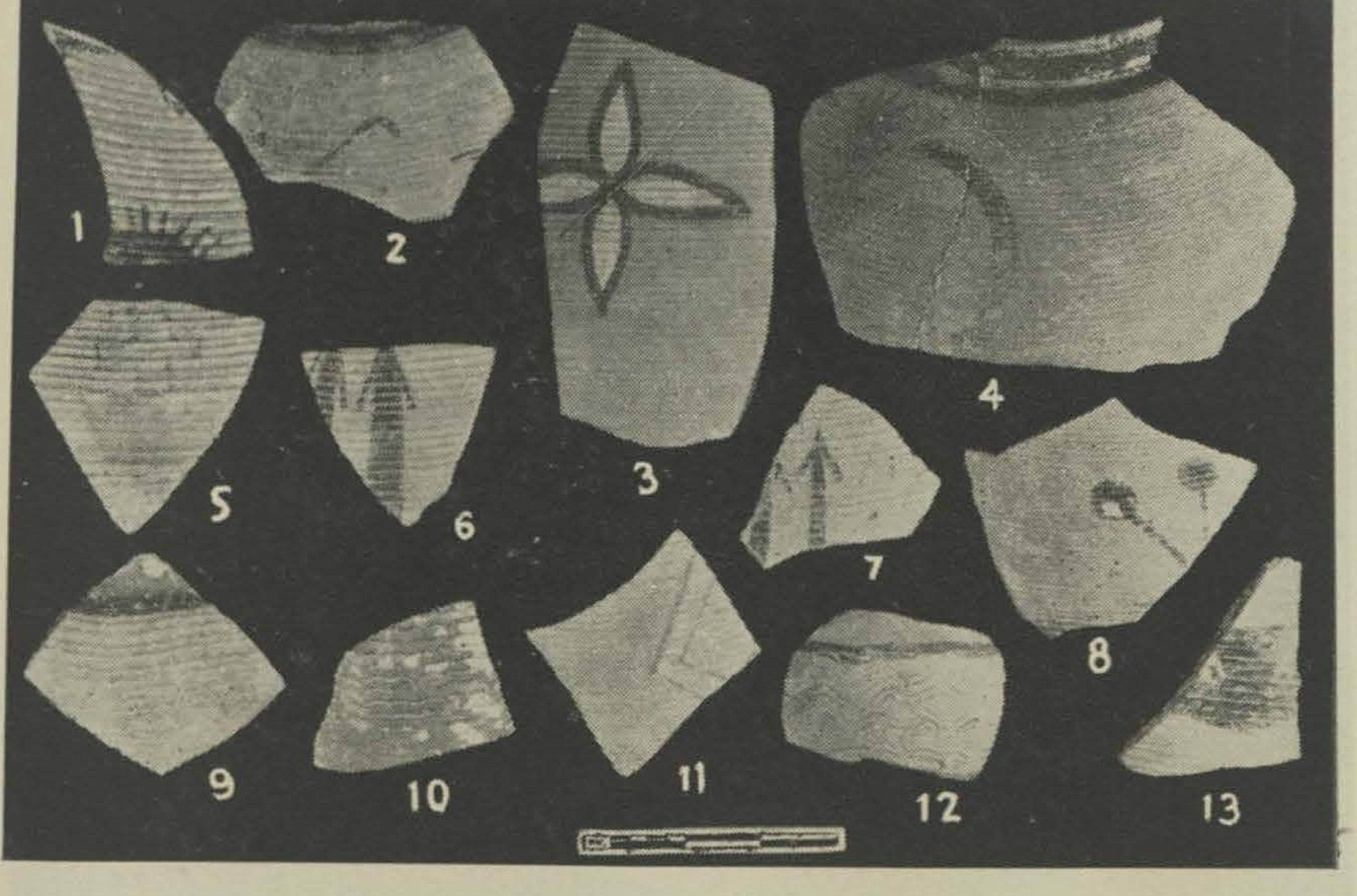
A. Sarai Khola: 1,2,4 & 5 bases of burnished vessels; 6 type II; 7 type I; and 3 type V



B. Sarai Khola: Handmade globular vessels, type V



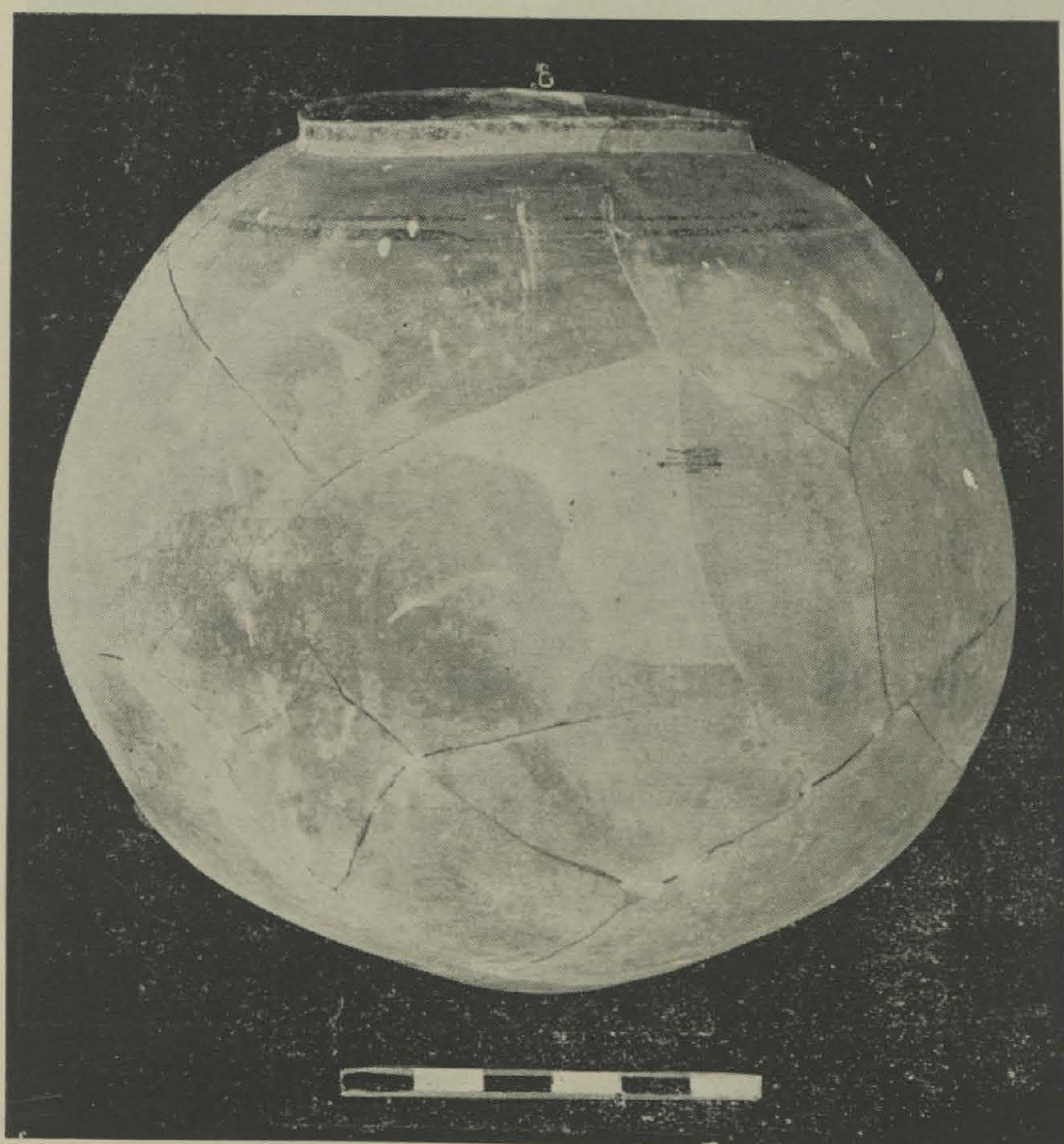
A. Sarai Khola: Grooved vessels, type VII



B. Sarai Khola: Painted grooved sherds



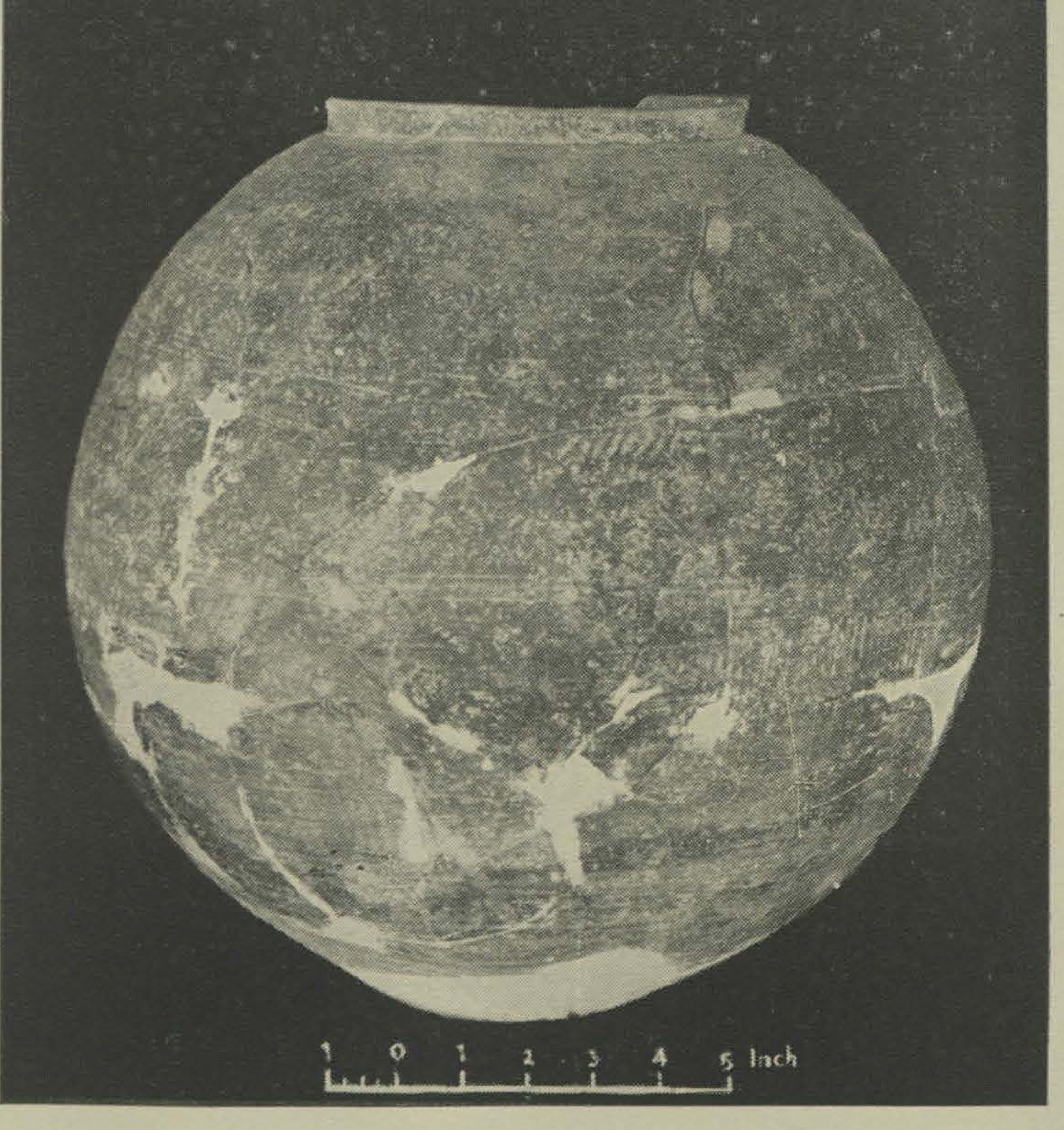
A. Sarai Khola: Kot Dijian ware, type IX



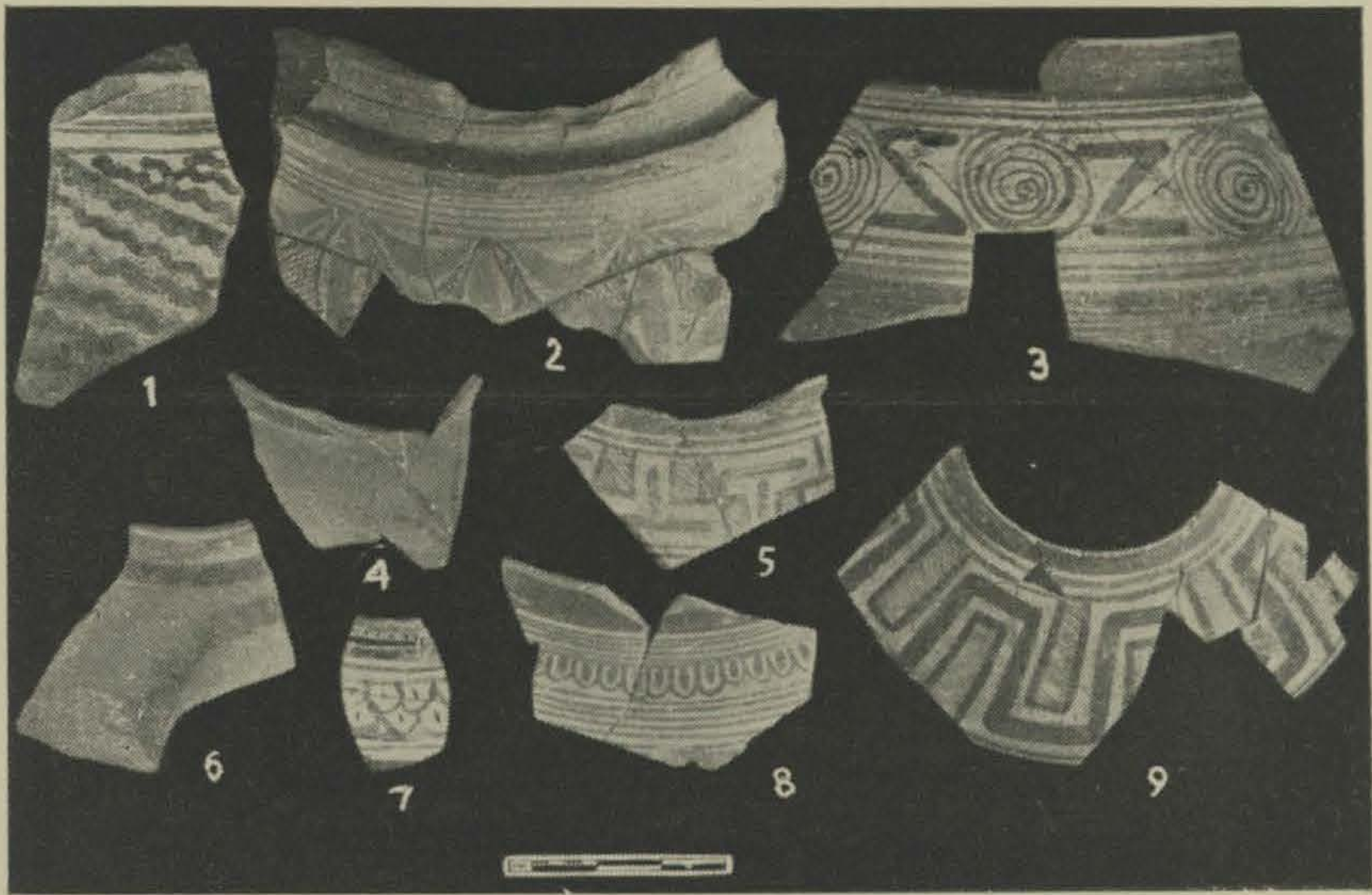
B. Sarai Khola: Kot Dijian ware, sub-type IXA



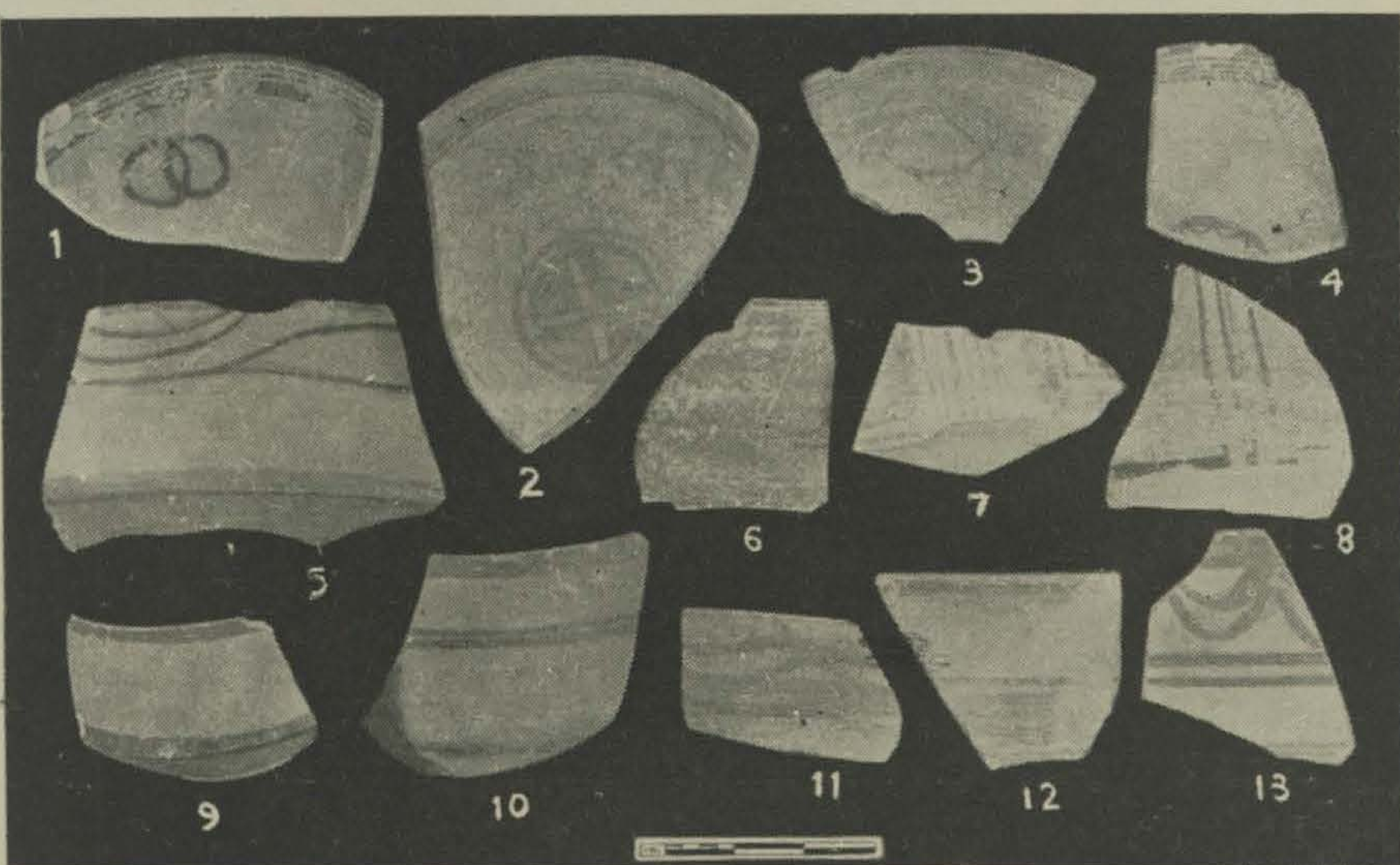
A. Sarai Khola: Kot Dijian ware, sub-type IXA



B. Sarai Khola: Kot Dijian ware, sub-type IXC



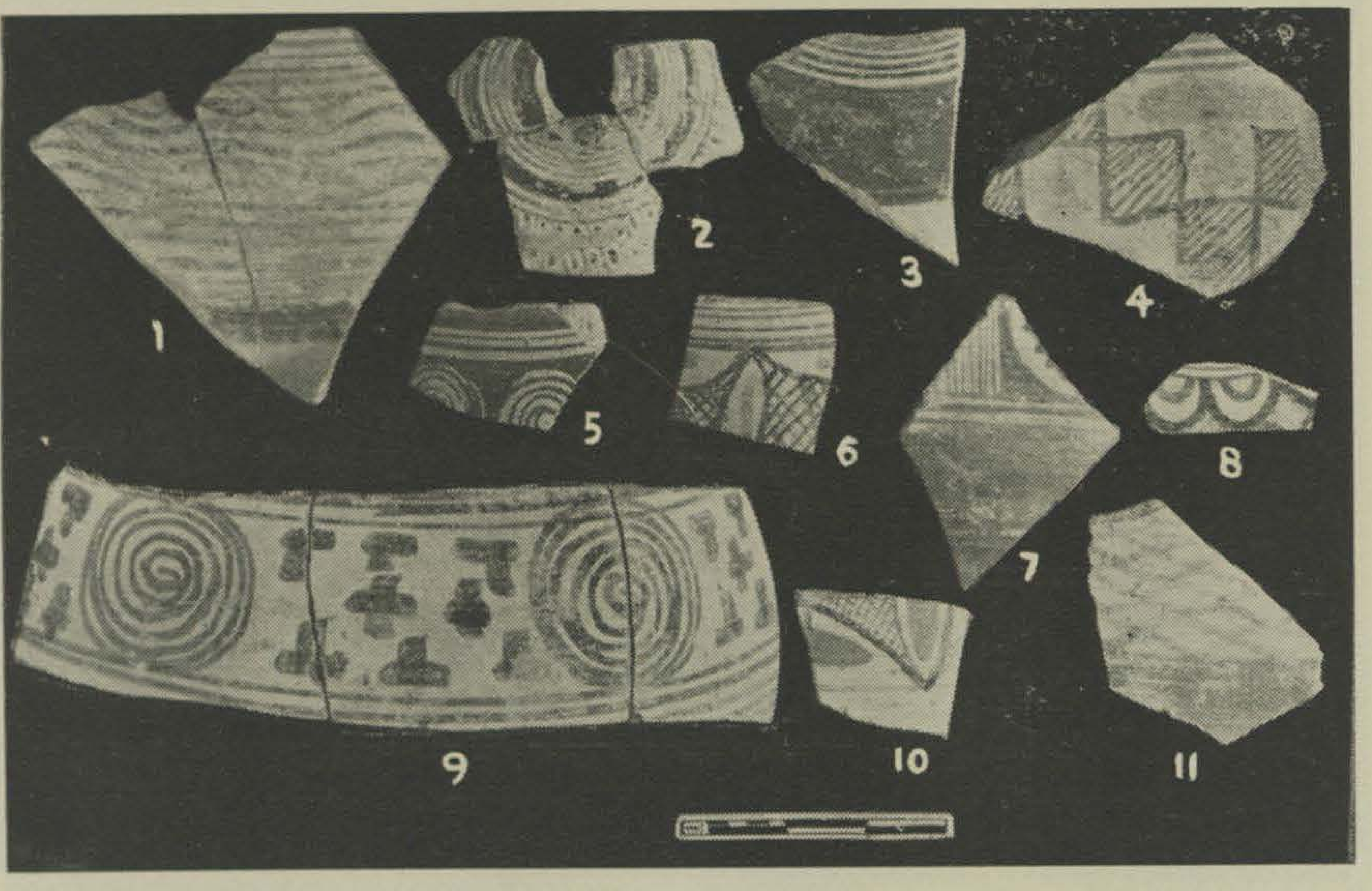
A. Sarai Khola: 1, 2 & 7 painted flanged vessels, 3-6, 8-9 painted Kot Dijian ware, sub-type IXE



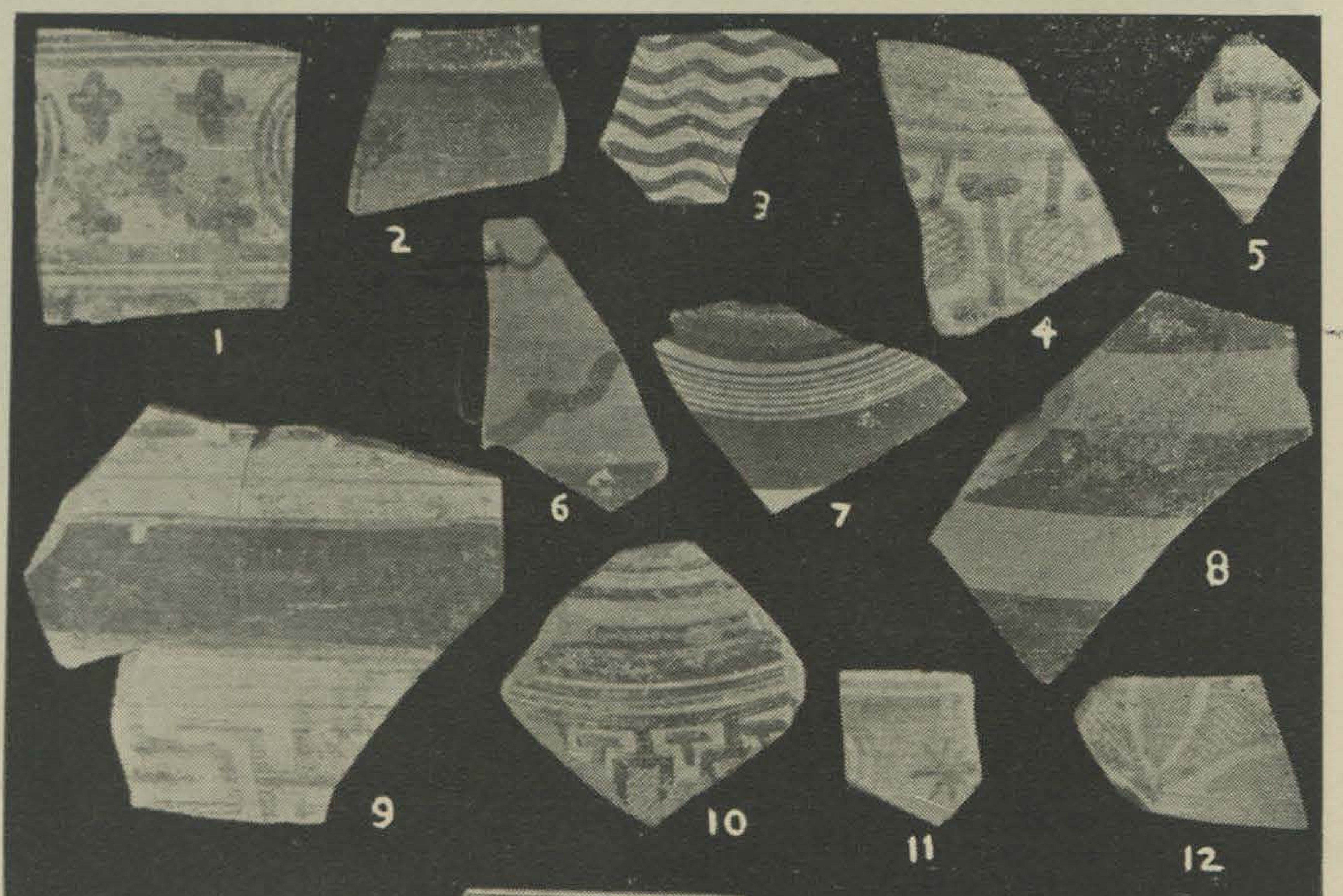
B. Sarai Khola: 1-4, type X; 5-11, type XI; and 12-13, sub-type XIA



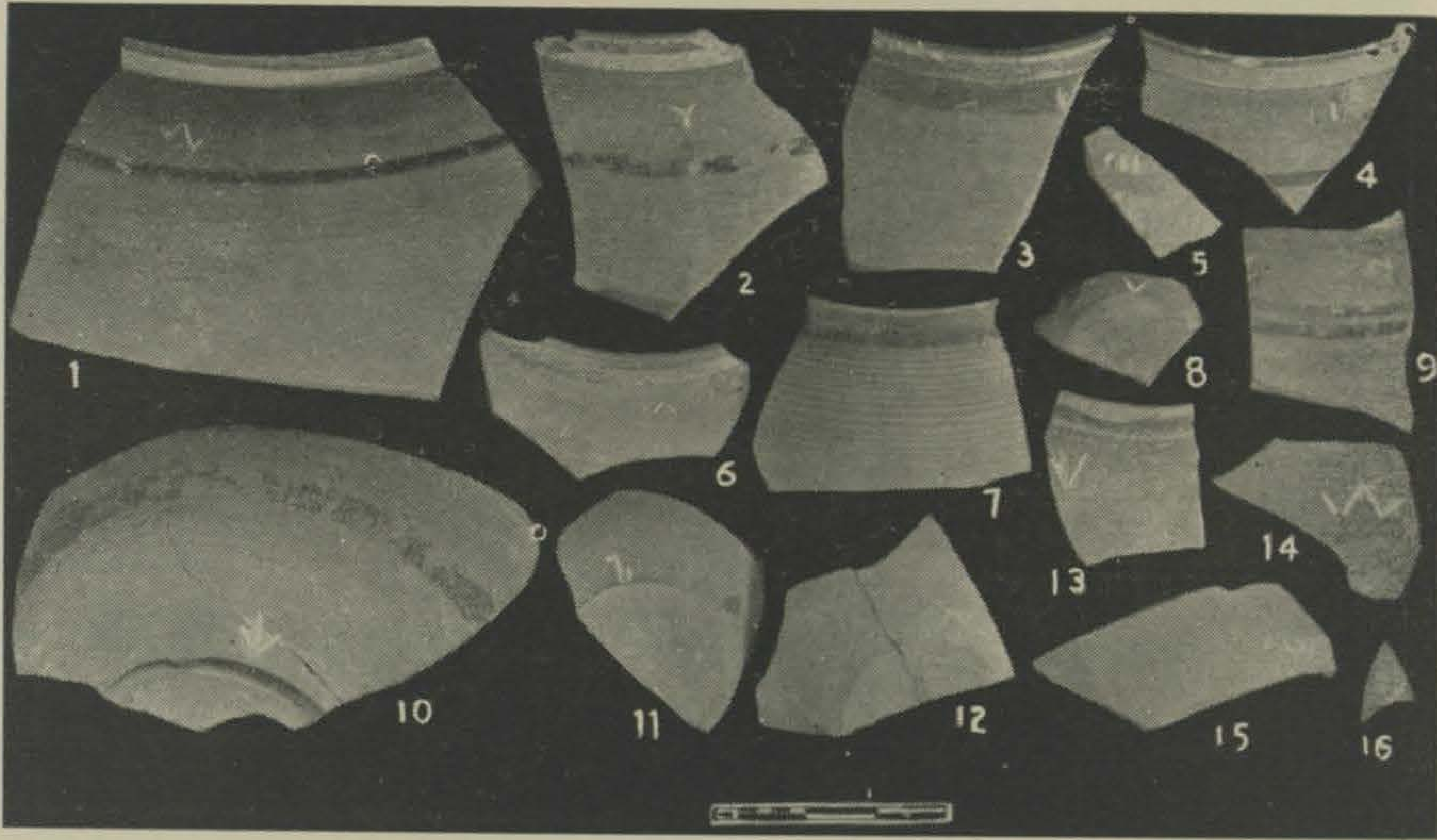
C. Sarai Khola: 1, type X; and 2, sub-type XIA



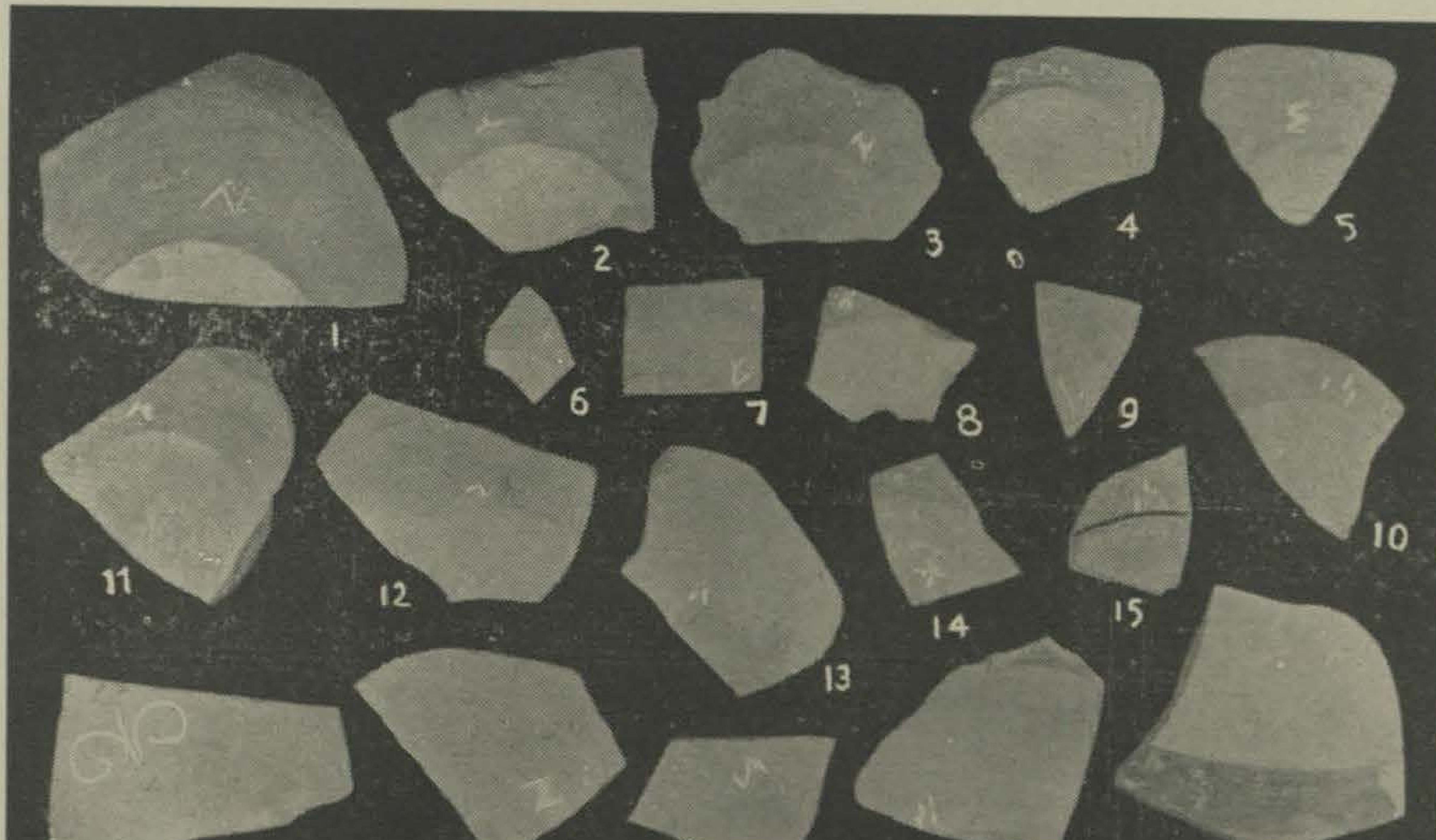
A. Sarai Khola: Painted sherds 1-3, 5-11 from Period II and 4 from transitional Period IA



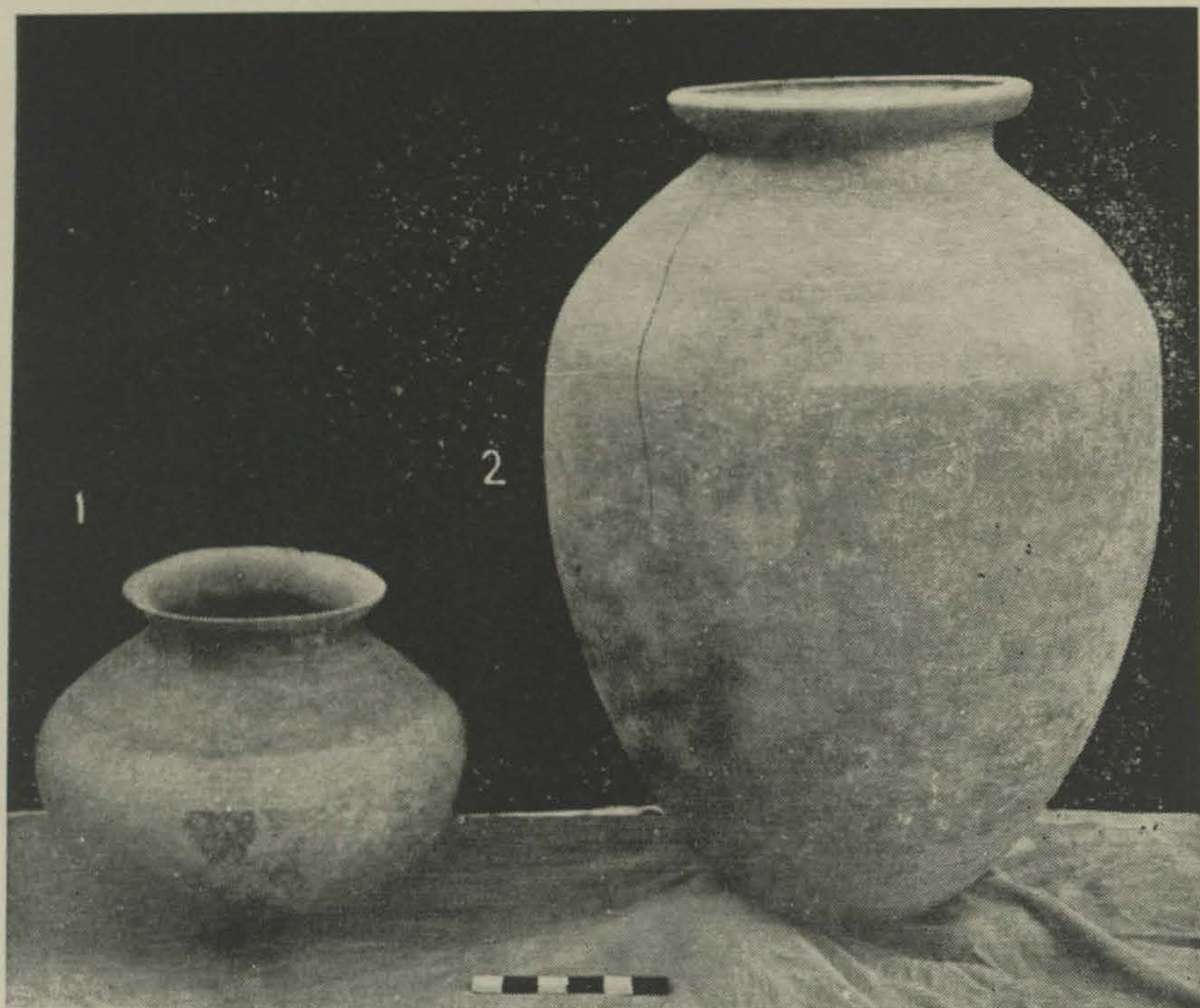
B. Sarai Khola: Painted potsherds from Period II



A. Sarai Khola: Incised potter's and graffiti marks



B. Sarai Khola: Sherds with incised potter's marks



A. Sarai Khola: *Chaati* and storage vessel from Period IV



B. Sarai Khola: Pottery of Period IV

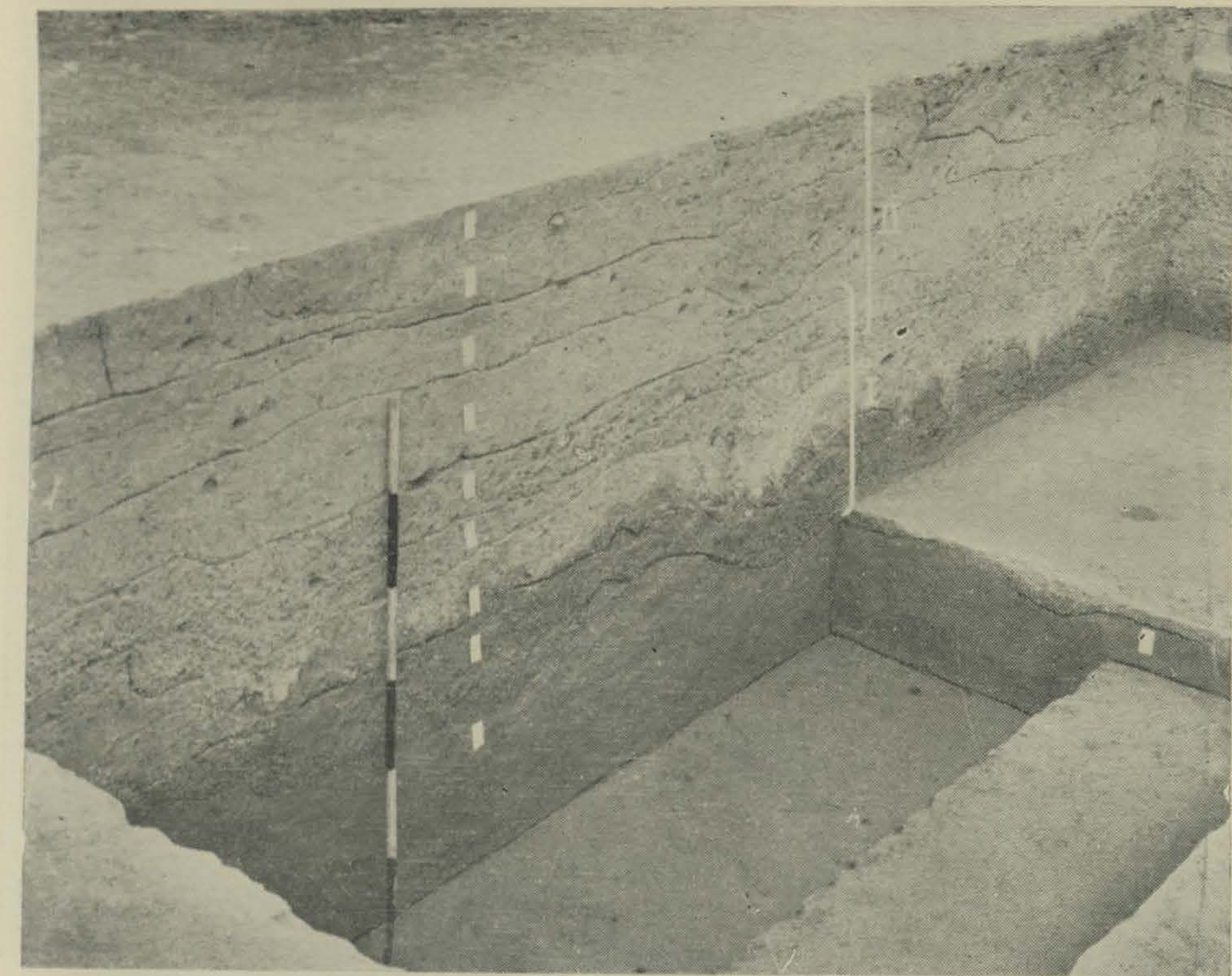
PLATE XXIV



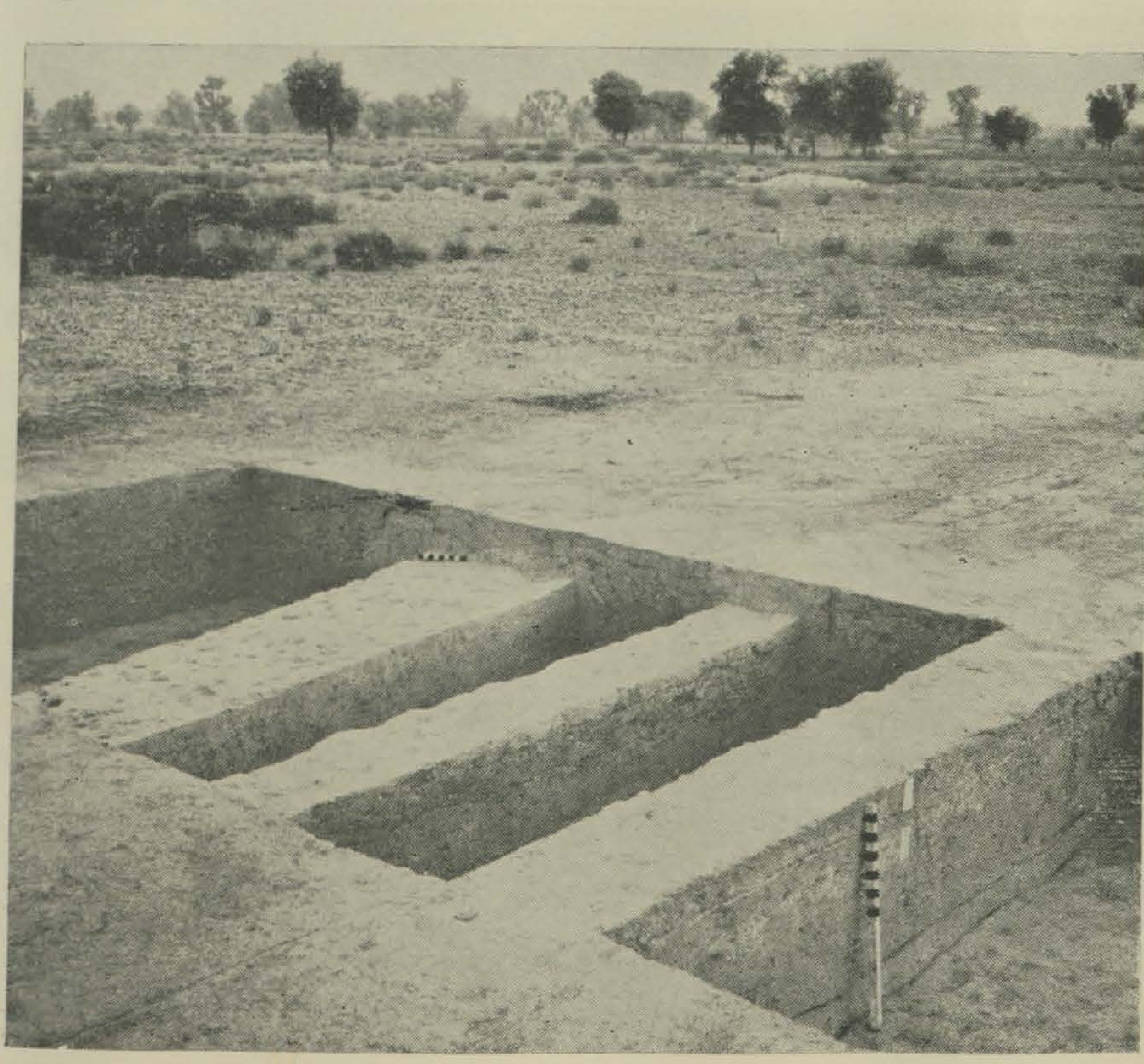
A. The fortification wall and the tomb of Mir Chakar Rind in Satghara town. View from north.



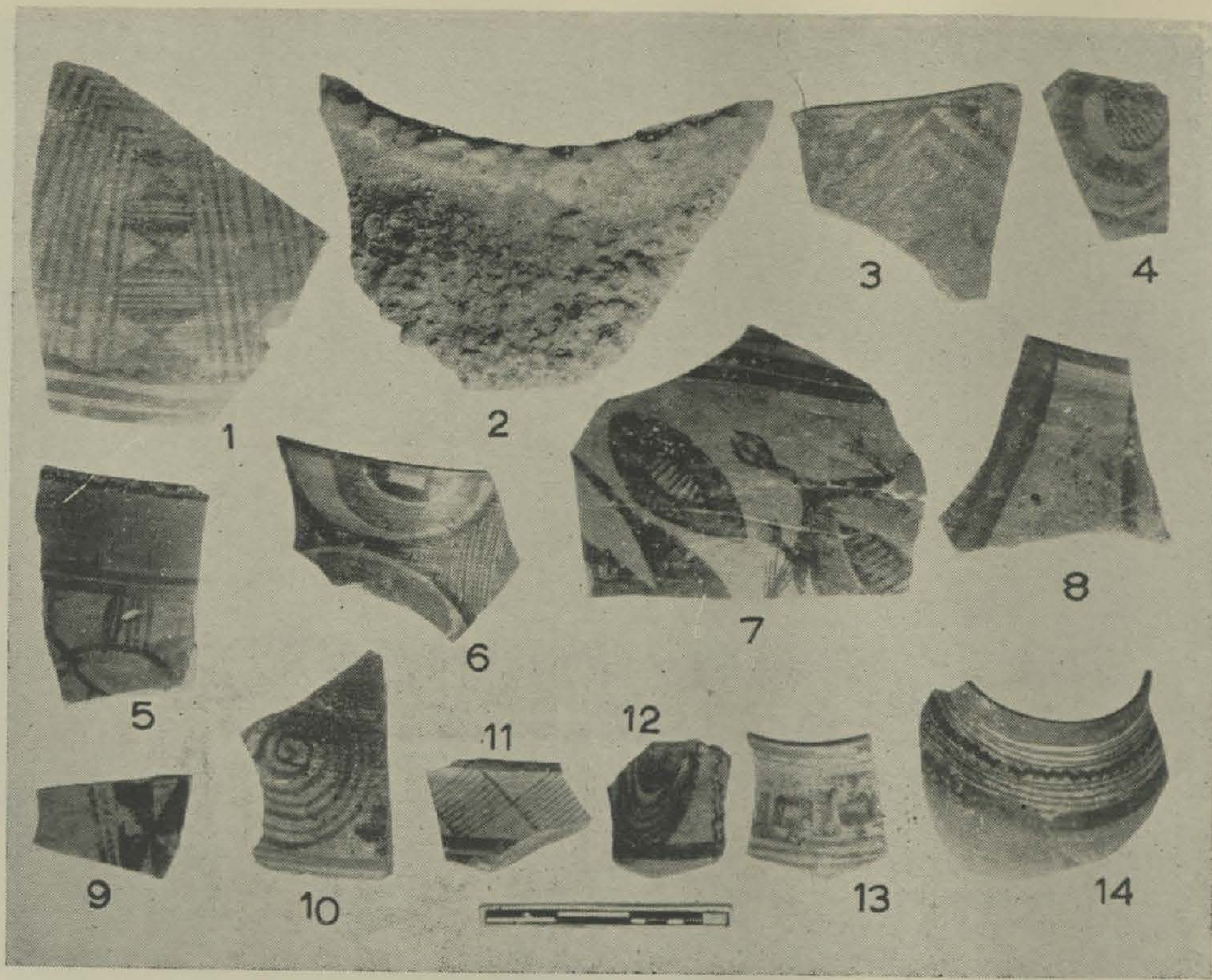
B. Satghara mound: The southern section of the test trench and two structural levels (during excavation).



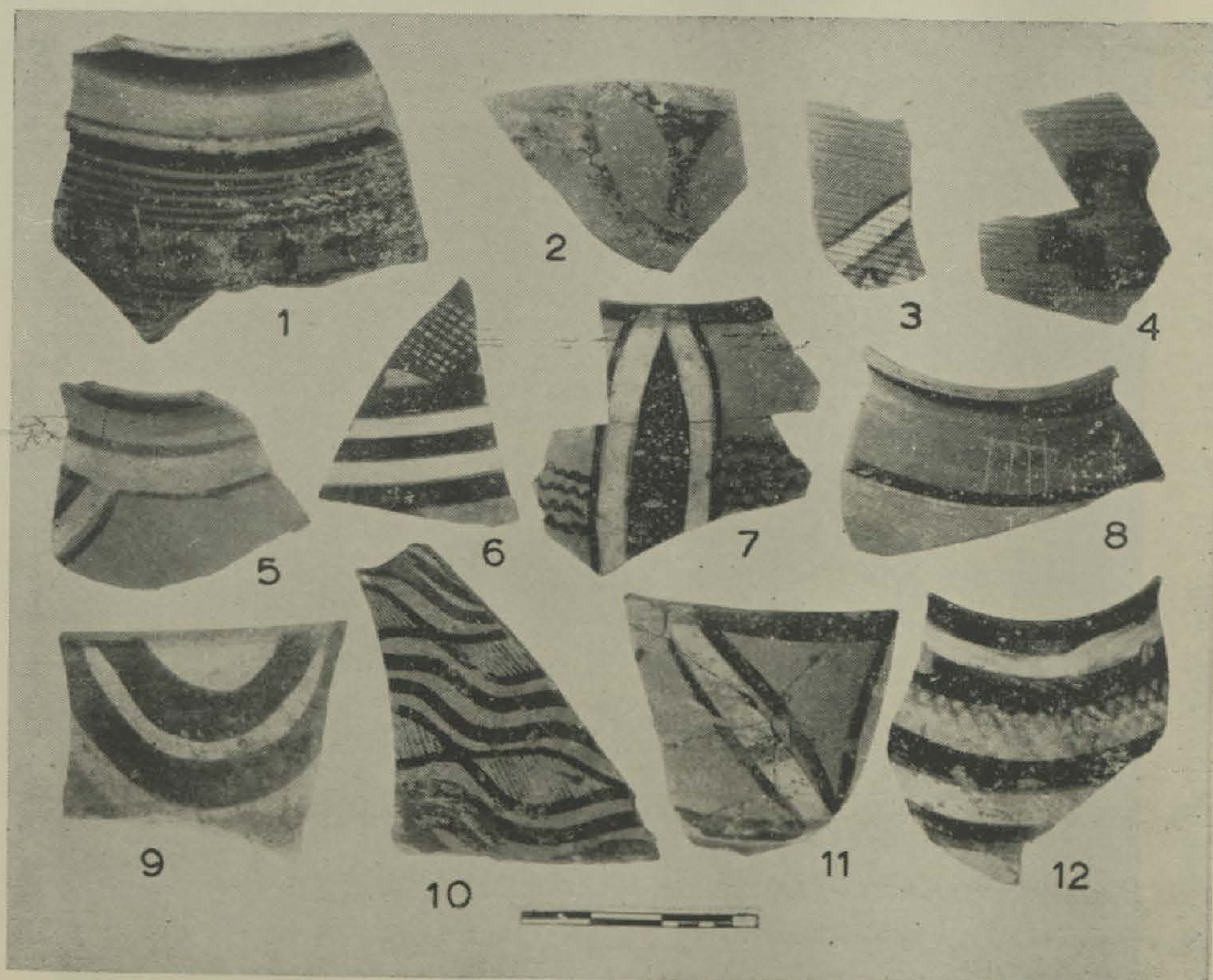
A. Jalilpur: The southern section of trench A & B showing successive layers of Periods I and II (Scale in feet).



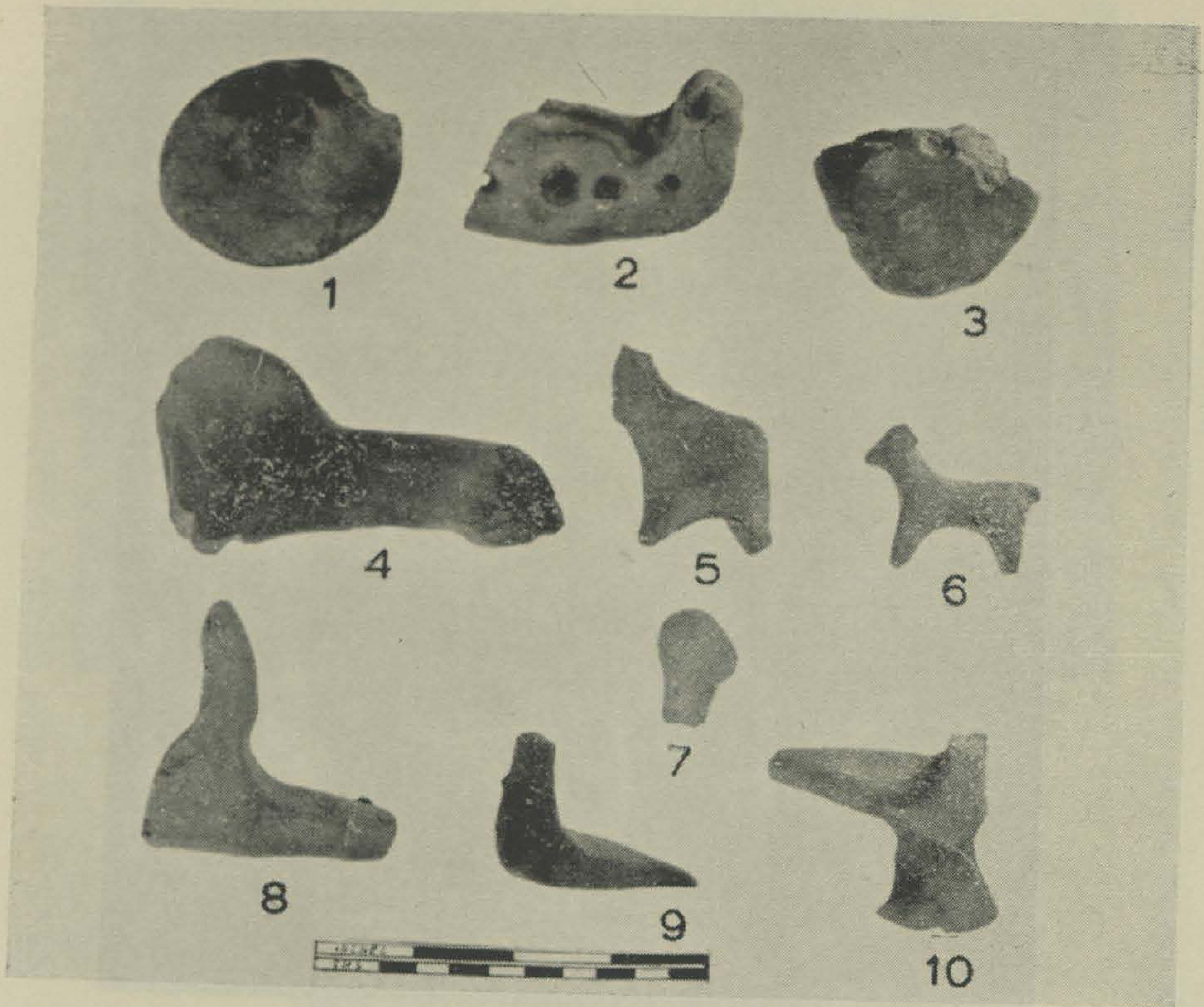
B. Jalilpur: The structures of mud lumps and mud-bricks belonging to Period II. View from southeast (Scales in feet and inches).



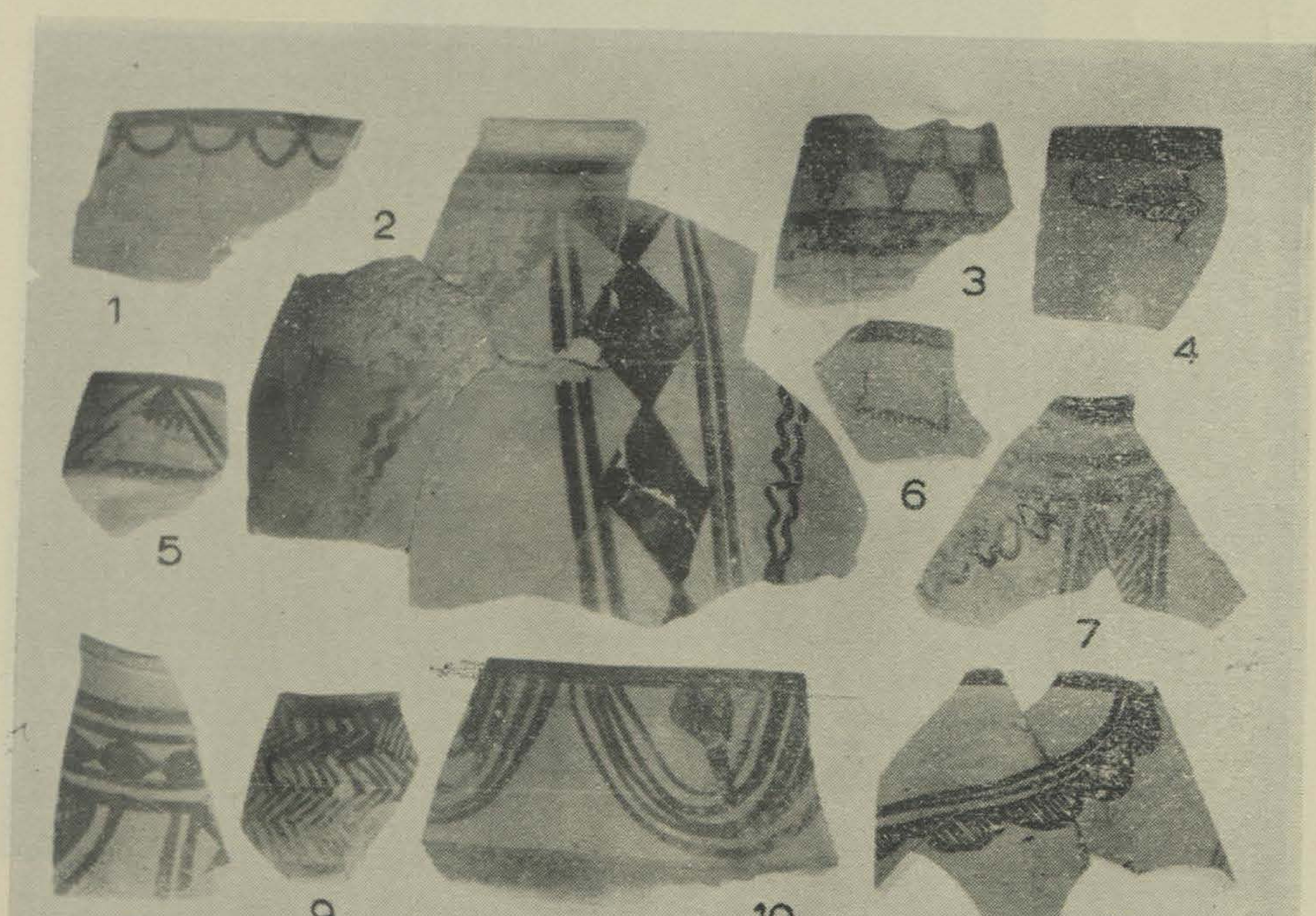
A. Pottery from Jalilpur: Period I, No. 2 & 3; and Period II, No. 1, 4-14.



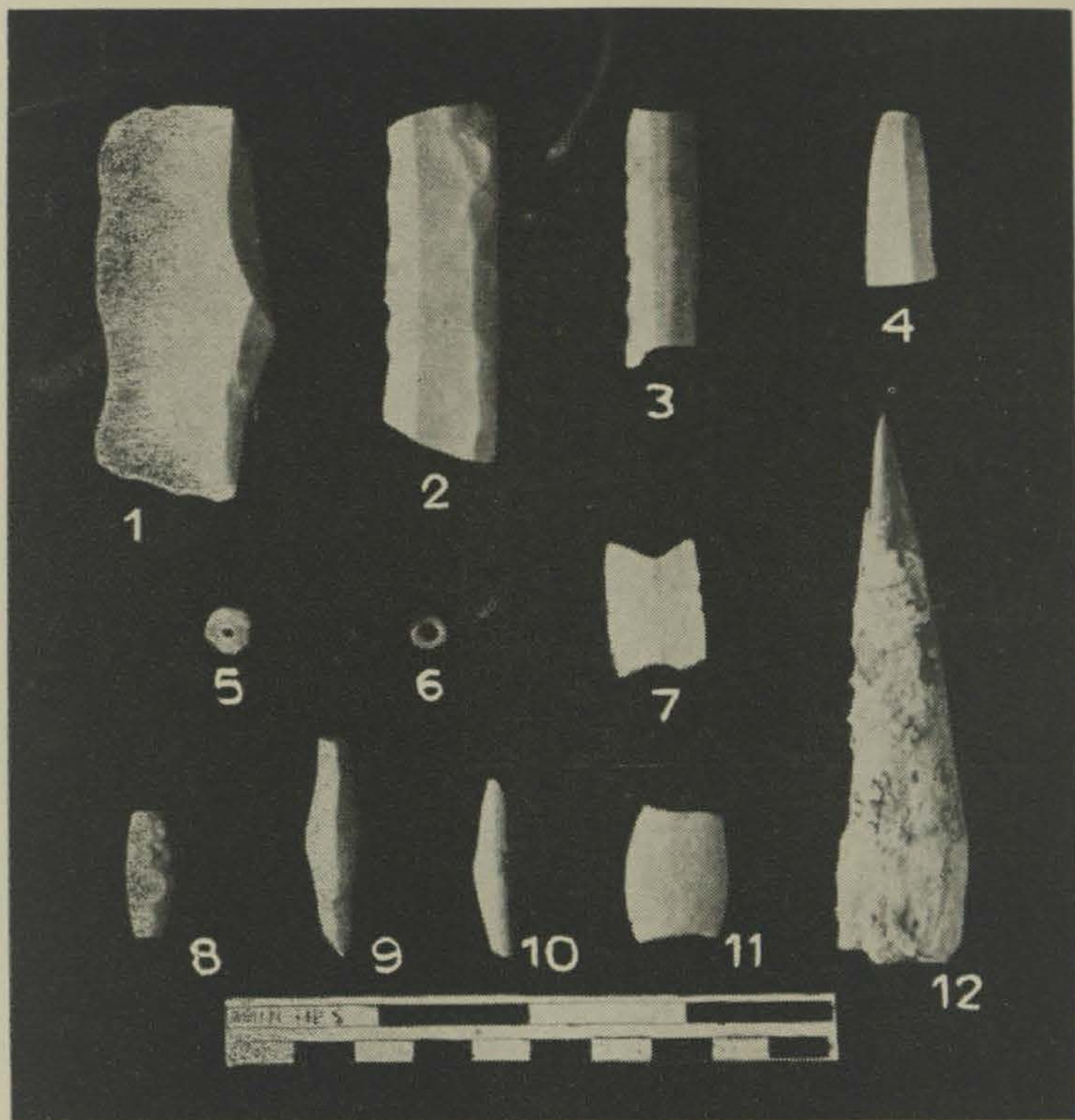
B. Pottery from Jalilpur, Period II.



A. Terracottas from Jalilpur, Period II.



B. Pottery from Jalilpur, Period II.



A. Miscellaneous objects from Jalilpur, Periods I and II.



B. Funerary pottery from Zarif Karuna.



A. Zarif Karuna: A single inflexed burial.

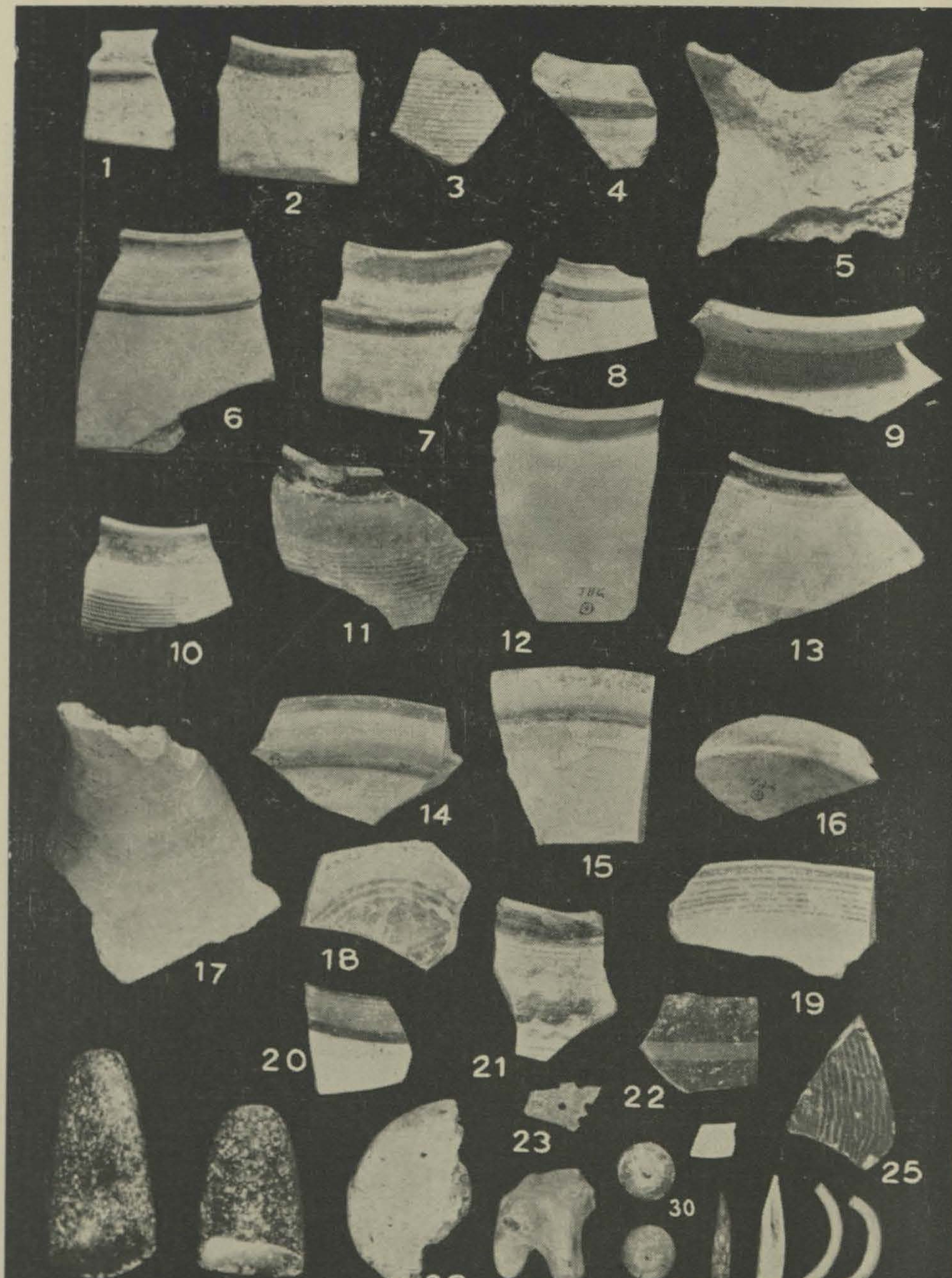


B. Zarif Karuna: The 'visage' urn for burial.

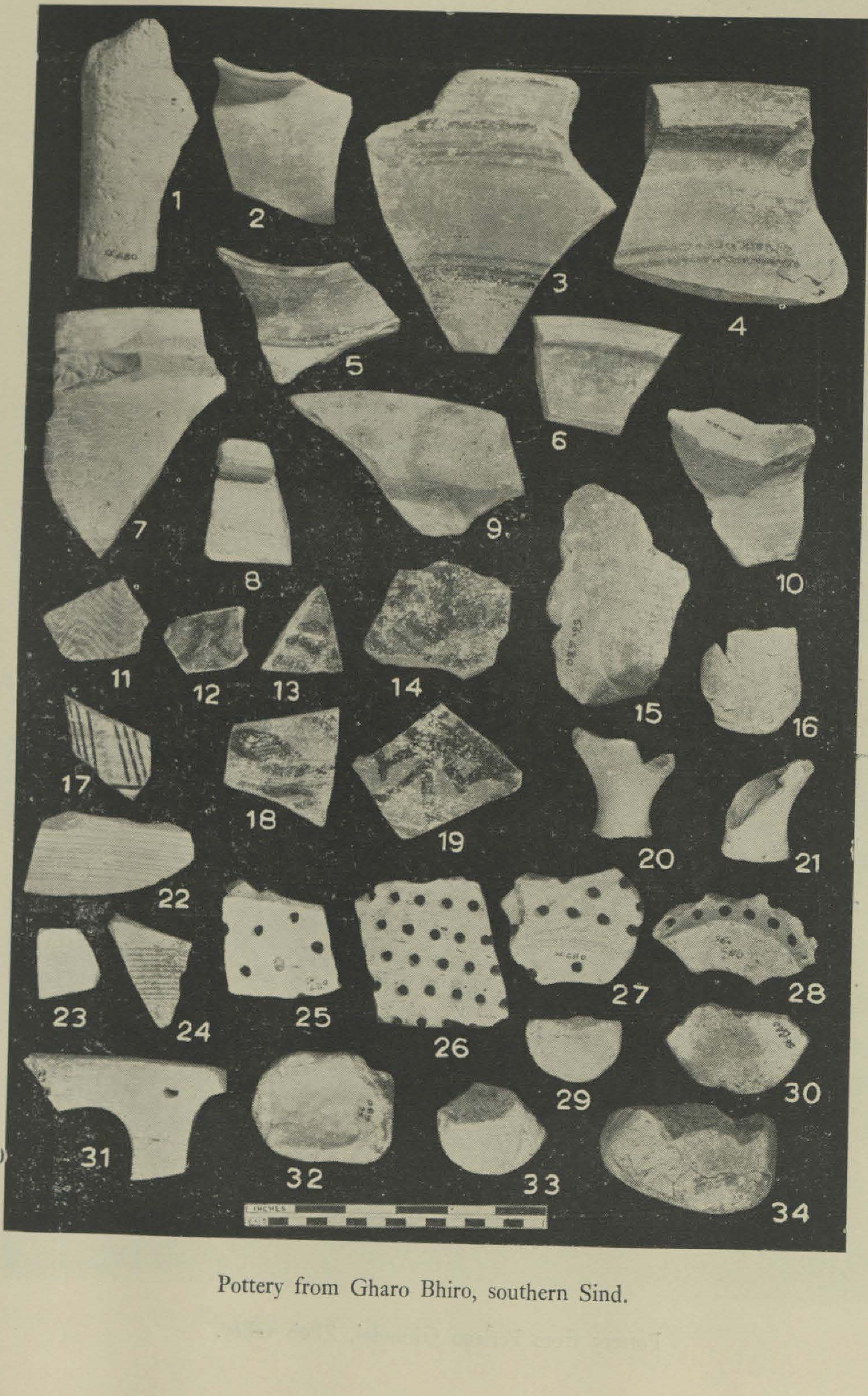


C. Zarif Karuna: Inflexed burial with terracotta bull figurines.

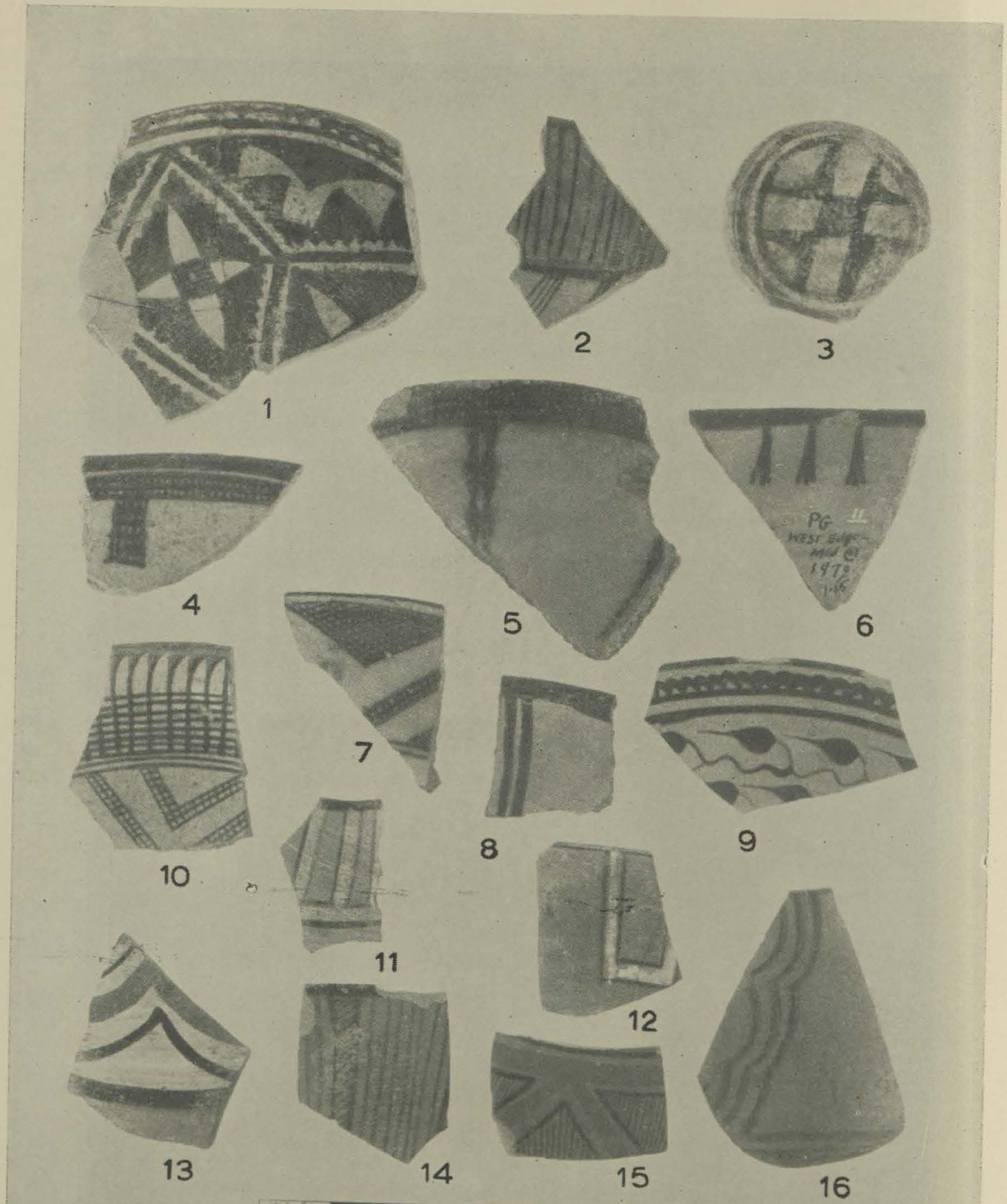
PLATE XXIX



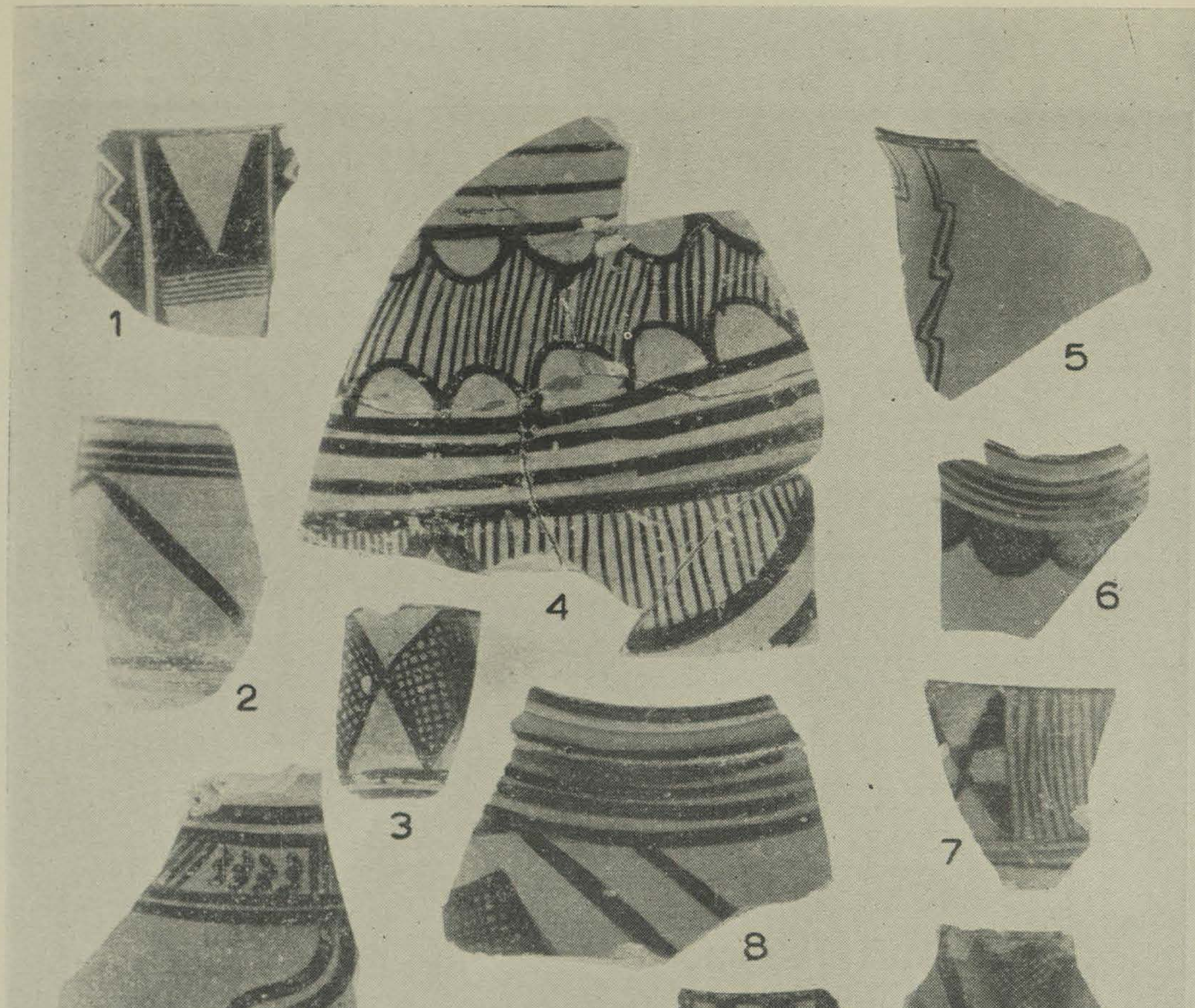
Pottery and antiquities from northern Punjab. 1, Khannda; 2-4, Pind Nausheri; and all the rest from Jhang.



Pottery from Gharo Bhiro, southern Sind.



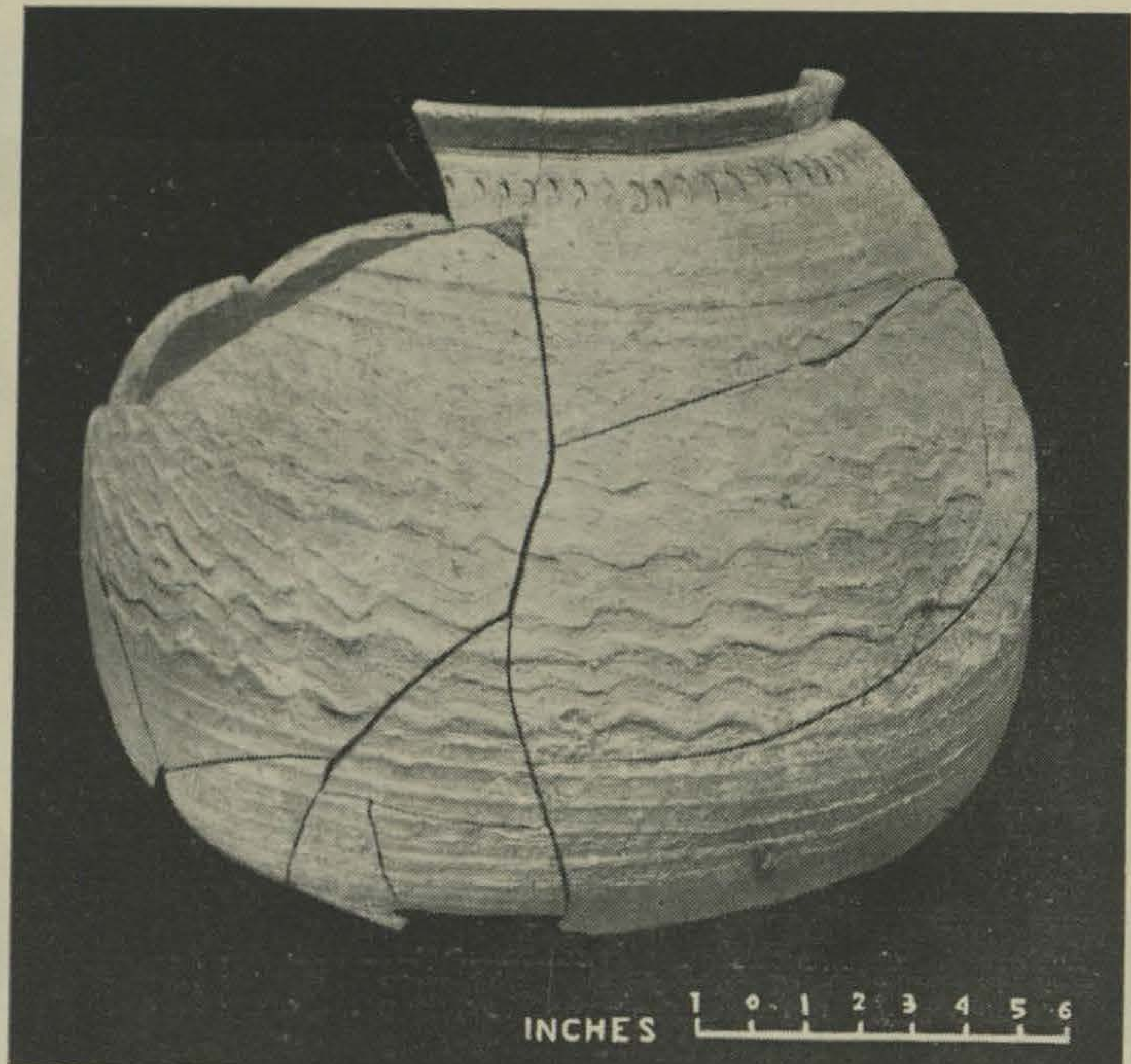
Pottery from Periano Ghundai, Zhob valley.



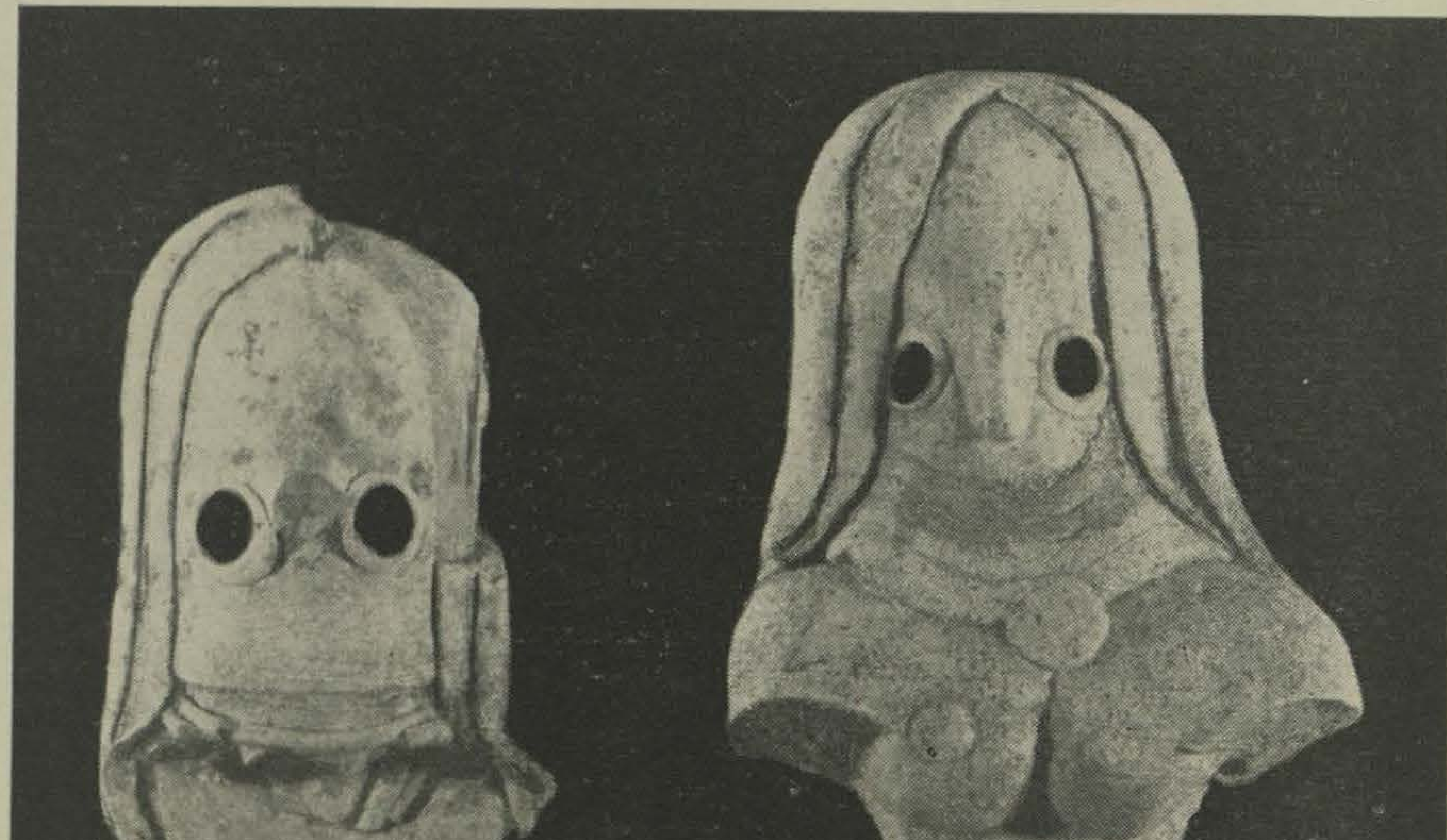
Black on red wares from Periano Ghundai, Zhob valley.



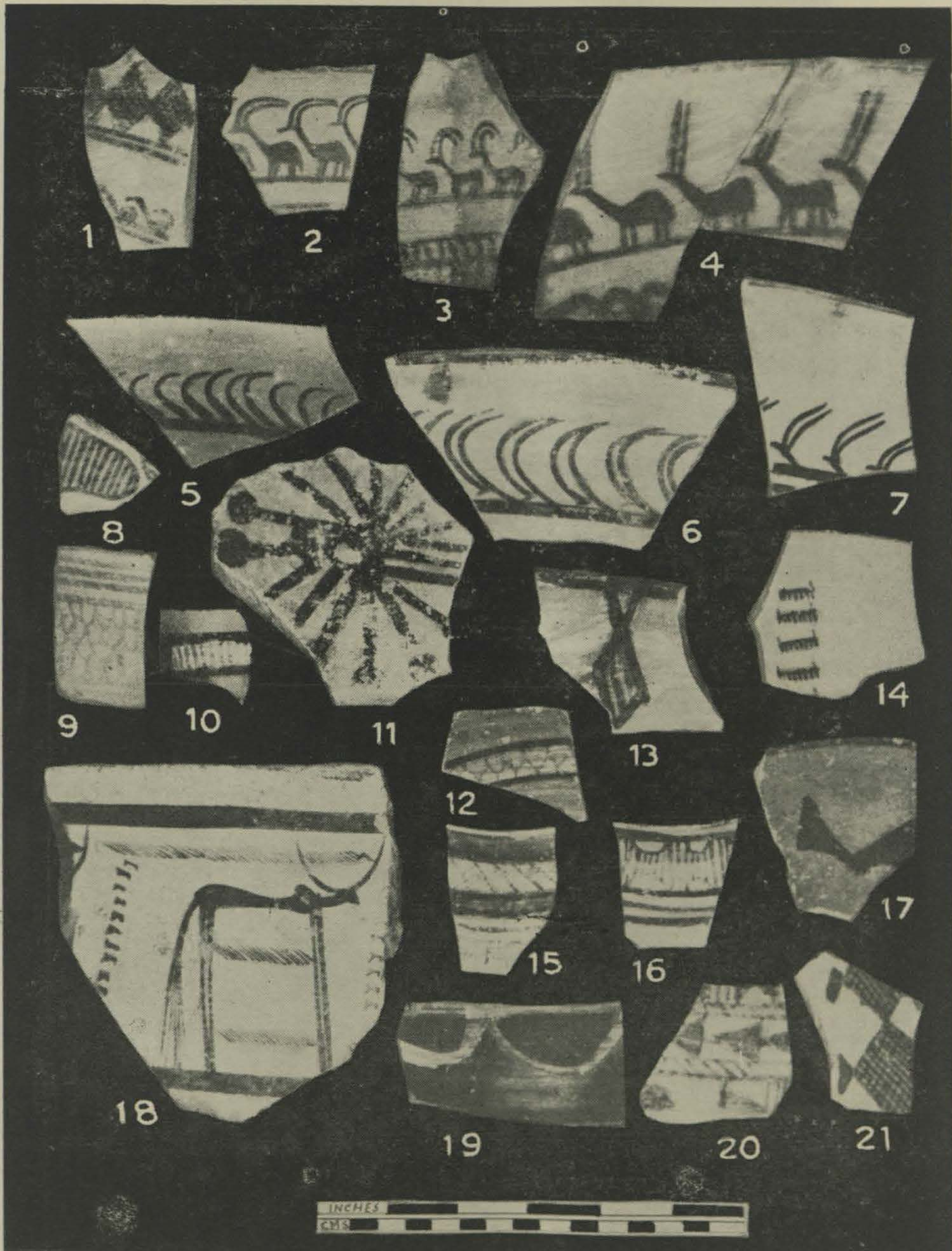
Pottery from Periano Ghundai.



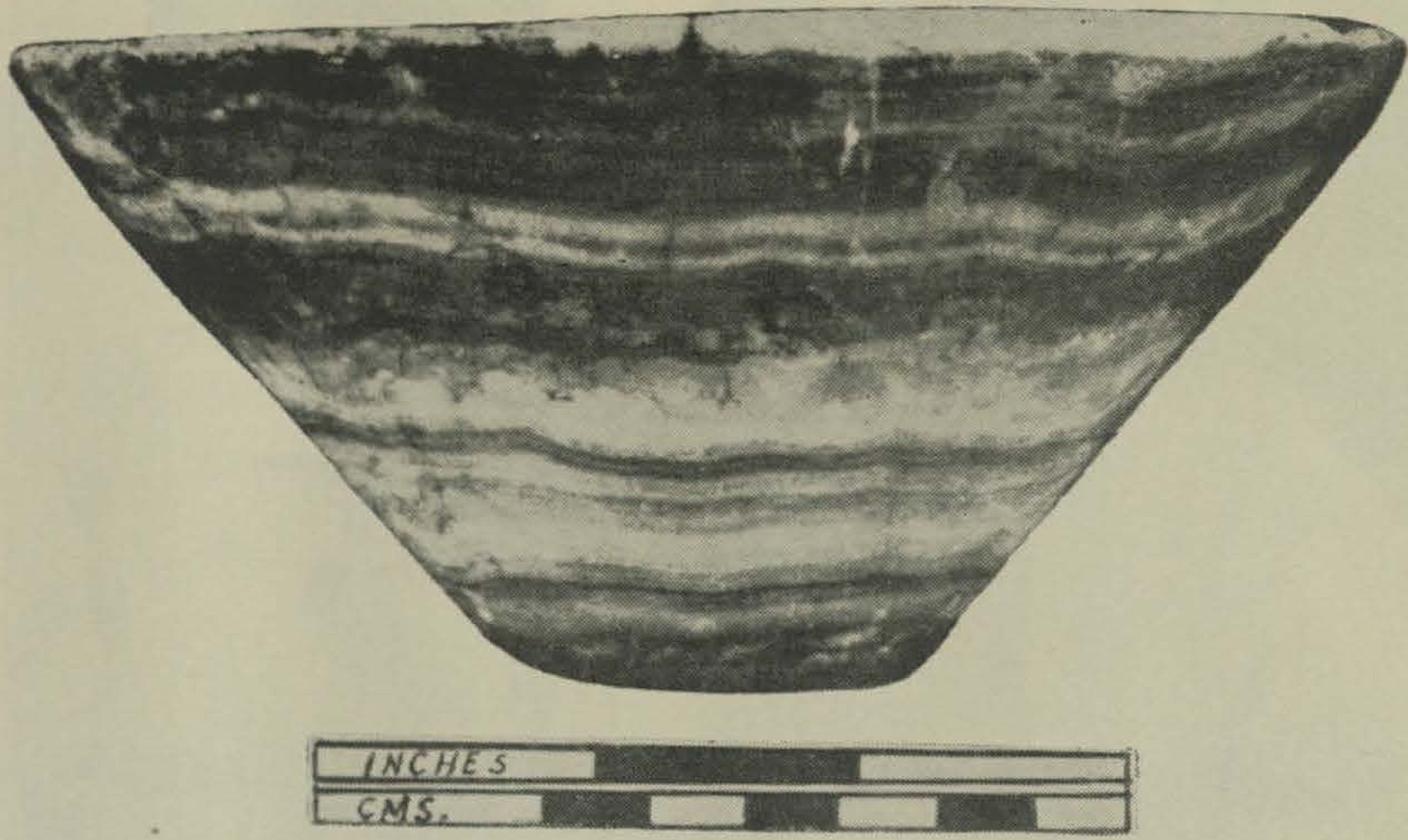
A. Periano Ghundai: A vessel with decoration in low relief.



B. The Zhob style female figurines of terracotta from Periano Ghundai from test trench, layer 5.



Painted pottery from Togau, Kalat, 1 to 17 and 19 to 21; from Kaonri, Loralai, No. 18.



A. Alabaster bowl from Bhut Shamsi near Mastung, Kalat.

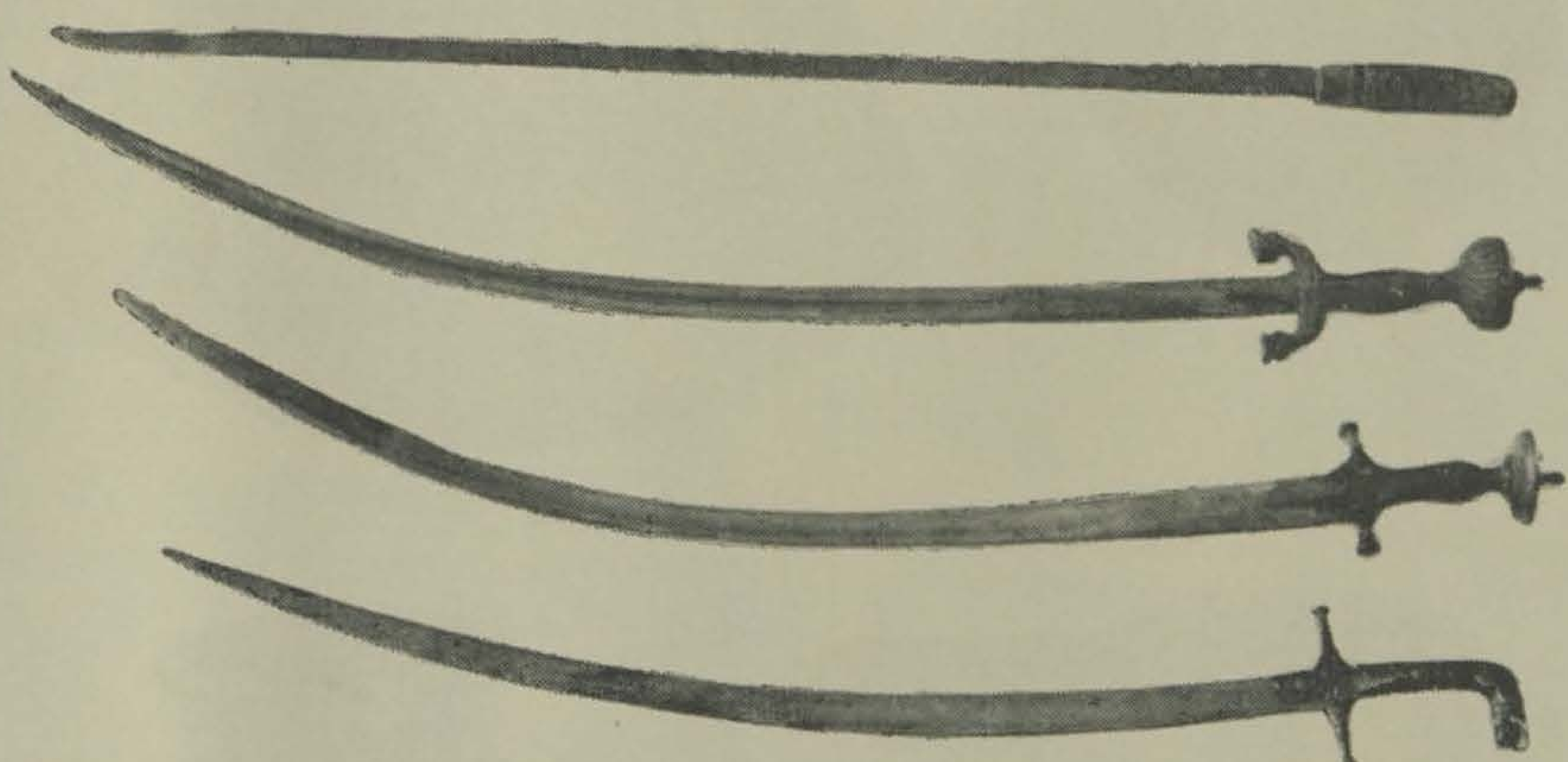


B. Pottery from Dabar Kot, No. 1 and 3; Bhut Shamsi, 2; and a bronze vase from Manzakai, Pishin, 4.

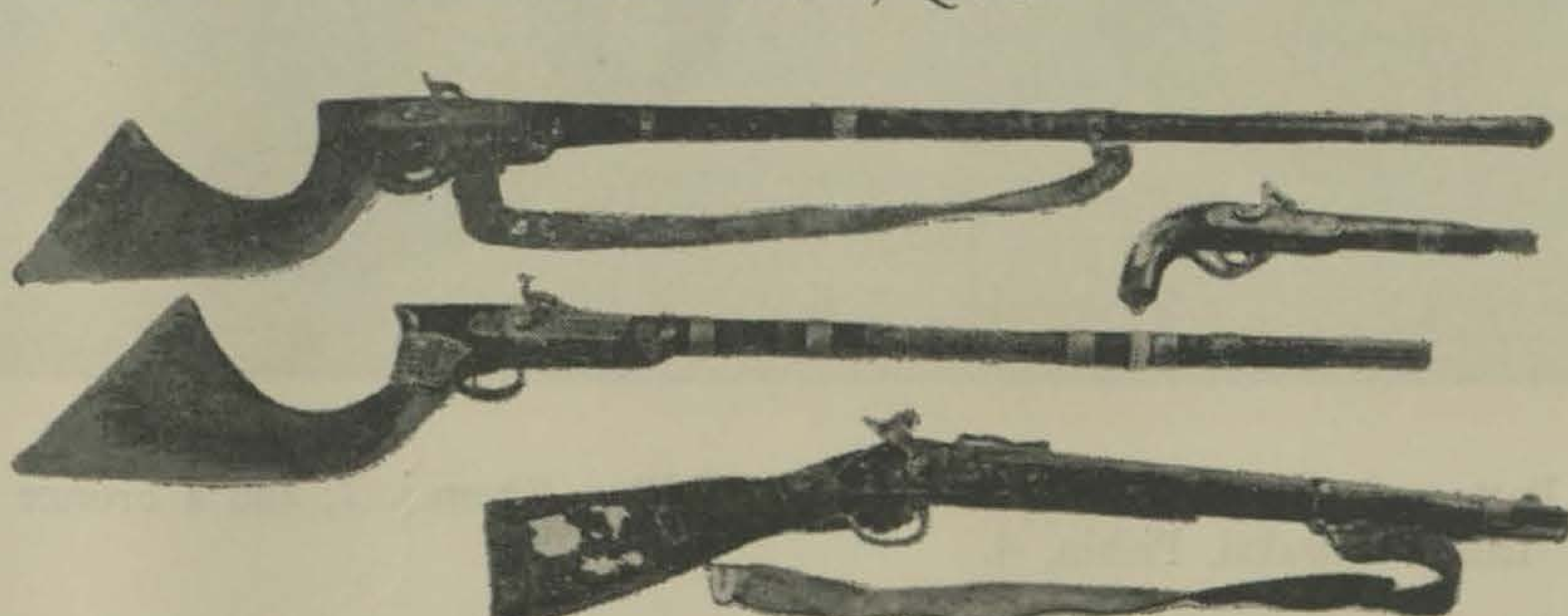




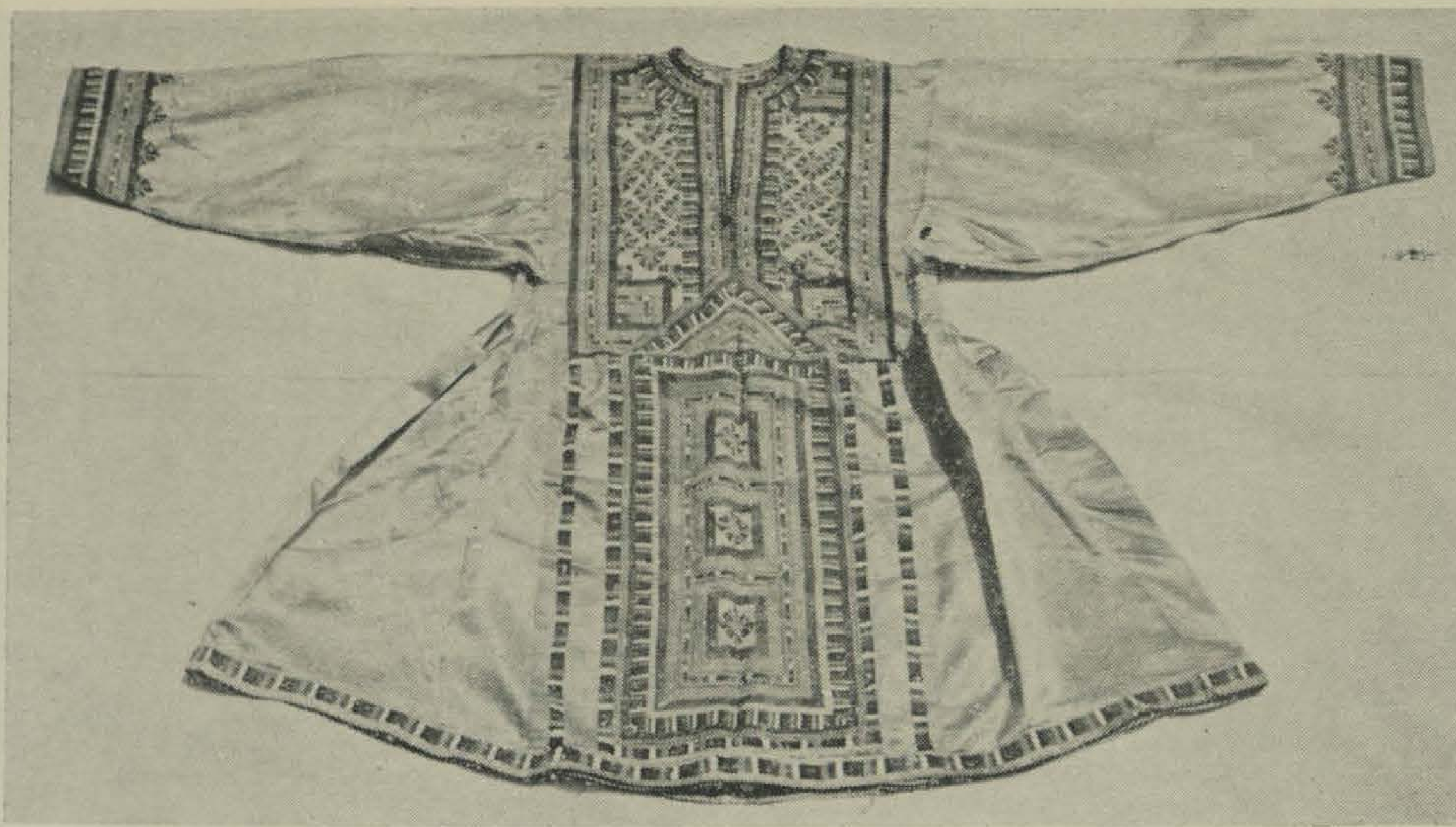
A. A long shirt of a teen-age boy, hand-stiched in a traditional Blauchi style, from Loralai.



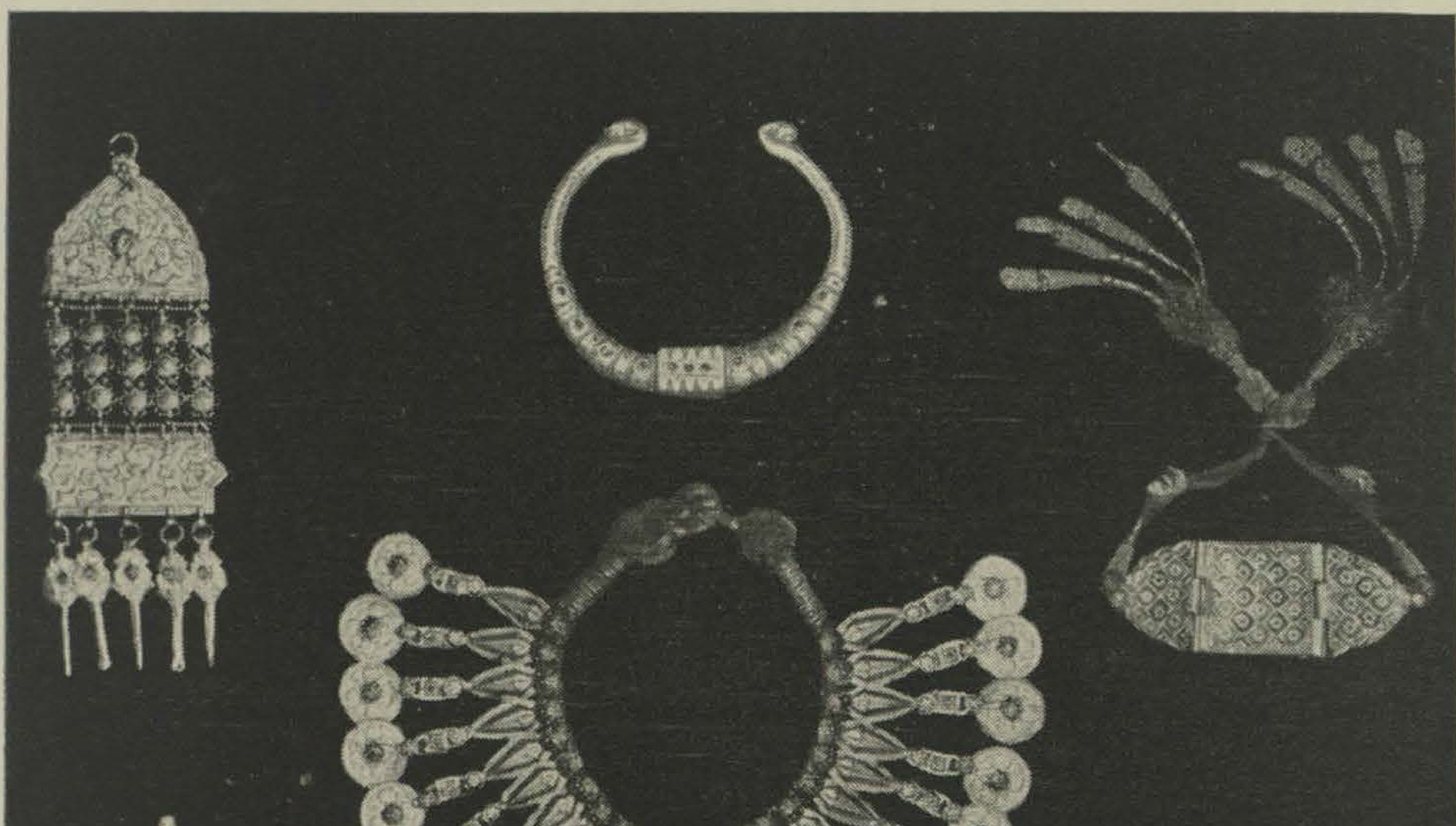
B. Some swords from Kalat. Over one hundred were collected by the Department of Archaeology and Museums in 1972 which are now housed in the Provincial Museum, Quetta.



C. Some guns and pistols from Kalat among about two hundred collected by the Department of Archaeology & Museums, now in the Quetta Muesum.



A. Traditional female skirt from Kalat.



B. Traditional Baluchi jewellery from Kalat.



Author presenting his book 'Nal-wa-Daman' to Emperor Akbar

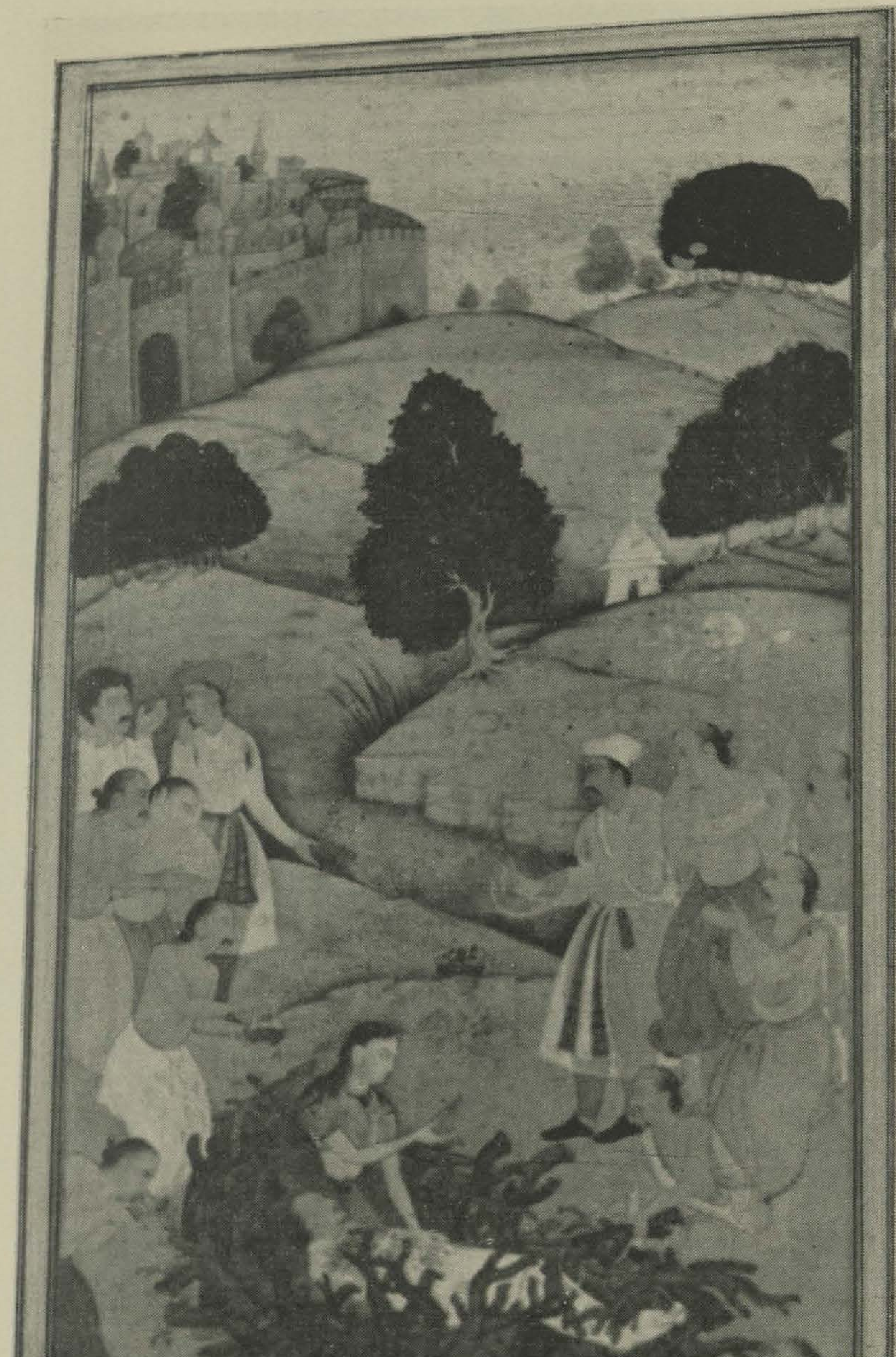


First page of 'Nal-wa-Daman'

PLATE XLII



Nal sending his love-letter tied to the foot of a swan



Daman burning herself with Nal's corpse



Daman after having been swallowed by a dragon is vomitted out on being beaten by a traveller



Hermit and Nal

PLATE XLVI



A collage of fragments from folios, including the head of Raja Bibirik (or Barbarik) in a banyan tree. (B. 92 Chandigarh Museum)



Prince Sadhanwa ordered to be boiled in oil by his father Raja Hansadhwaja. (LM. B. 94). courtesy: Director, Lahore Museum.



Bhima slays his opponent in the closing bouts of the Mahabharata (LM. B. 93)
courtesy: Director, Lahore Museum